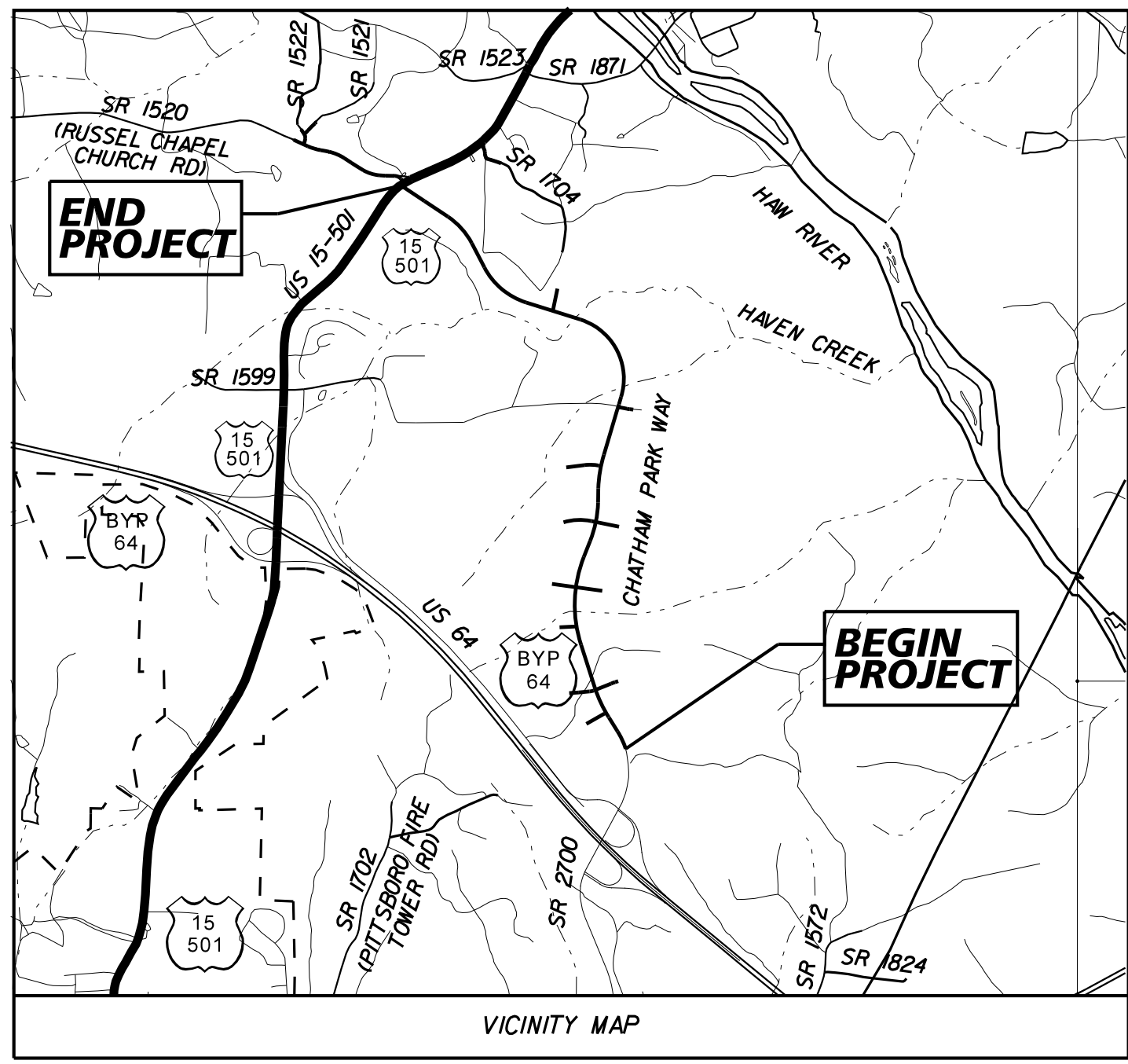


09/05/19

**TIP PROJECTS: R-5930B**

**RIGHT-OF-WAY PLANS**



--- PITTSBORO CITY LIMITS

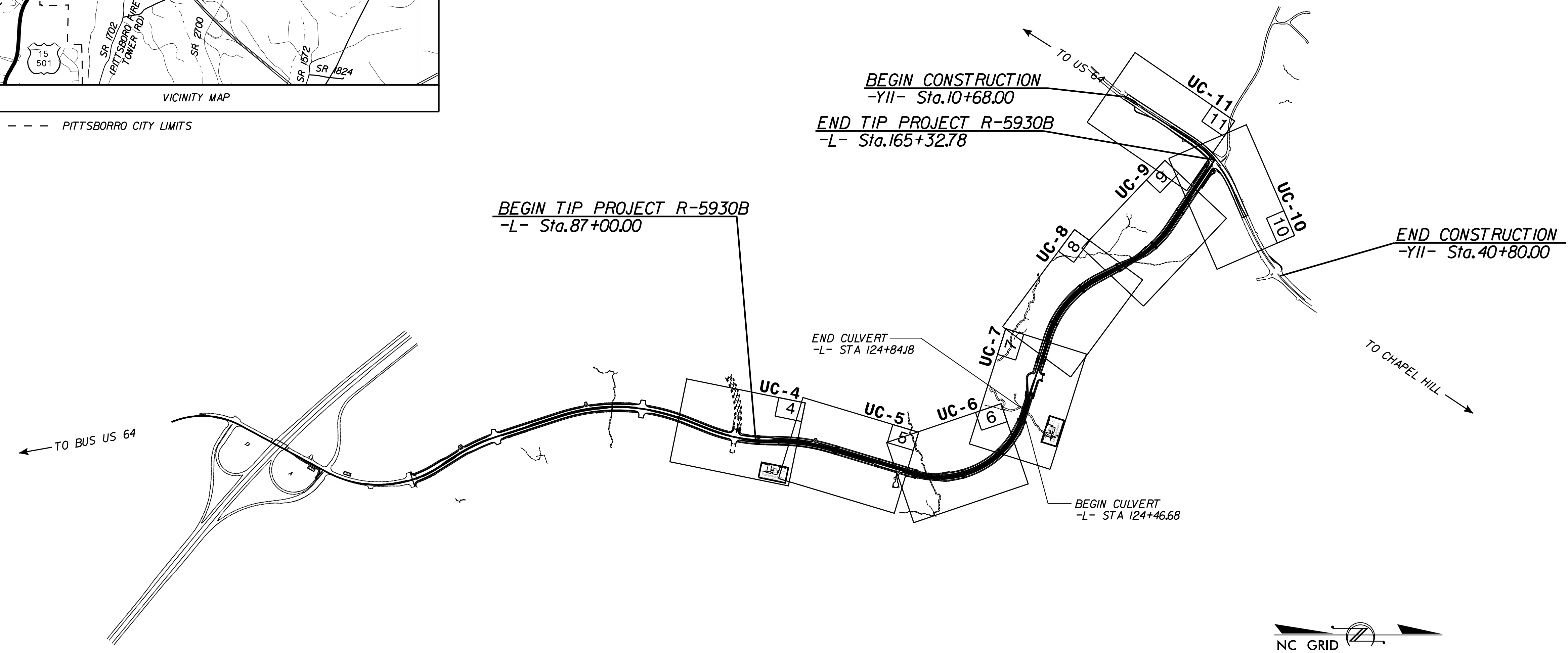
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**UTILITY CONSTRUCTION PLANS  
CHATHAM COUNTY**

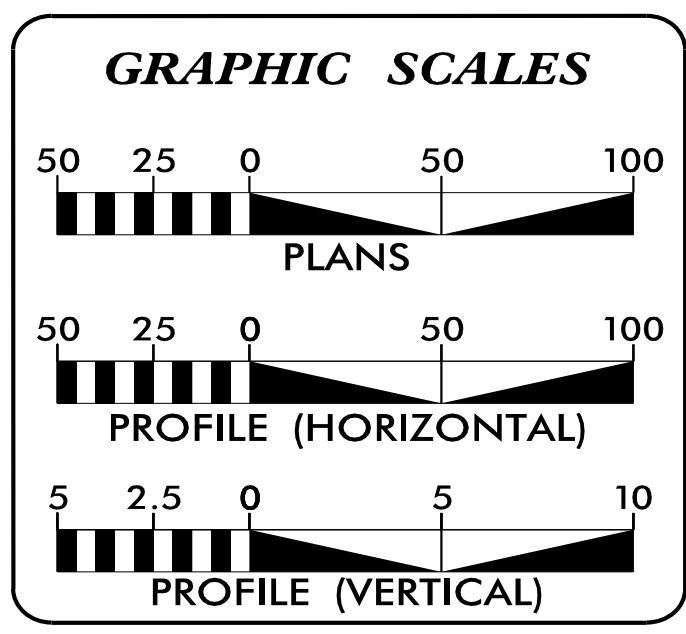
**LOCATION: CHATHAM PARK WAY IN PITTSBORO FROM GRANT DRIVE TO US 15-501**

**TYPE OF WORK: POTABLE WATERLINE**

T.I.P. NO.	SHEET NO.
R-5930B	UC-1



DOCUMENT NOT CONSIDERED FINAL  
UNTIL ALL SIGNATURES ARE COMPLETED



SHEET NO.:	DESCRIPTION:
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	UTILITY NOTES
UC-3A THRU UC-3B	UTILITY DETAIL SHEETS
UC-4 THRU UC-11	UTILITY CONSTRUCTION SHEETS
UC-12	UTILITY PROFILE SHEETS

**WATER AND SEWER OWNERS ON PROJECT**

(A) WATER, RECLAIMED WATER  
- TRIRIVER WATER

PREPARED IN THE OFFICE OF

**Kimley»Horn**

NC LICENSE # 045249  
2014 EXPIRES 12/31/2018  
2015 EXPIRES 12/31/2019  
2016 EXPIRES 12/31/2020  
2017 EXPIRES 12/31/2021  
2018 EXPIRES 12/31/2022  
2019 EXPIRES 12/31/2023  
2020 EXPIRES 12/31/2024

NATE HARVEY, P.E. UTILITIES DESIGN ENGINEER

SEAL

12/12/2024

**DIVISION OF HIGHWAYS UTILITIES UNIT**  
1555 MAIL SERVICES CENTER  
RALEIGH, NC 27699-1555  
PHONE (919) 707-6690  
FAX (919) 250-4151

MICHAEL RICKETTS DIVISION 8 UTILITY ENGINEER  
TRENT CAVINESS DIVISION 8 UTILITY COORDINATOR

5/14/99

# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

<b>Kimley»Horn</b> 300 MORRIS STREET, SUITE 200 DURHAM, NC 27701	PROJECT REFERENCE NO. <b>R-5930B</b>	SHEET NO. UC-2
	DESIGNED BY: <b>NLH</b>	
DRAWN BY: <b>JNB</b>		
CHECKED BY: <b>NDR</b>		
APPROVED BY: <b>NLH</b>		
REVISED:		
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		UTILITY CONSTRUCTION PLANS ONLY
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151		

## UTILITIES PLAN SHEET SYMBOLS

### PROPOSED WATER SYMBOLS

Water Line (Sized as Shown) .....	12" WL
11¼ Degree Bend .....	+†
22½ Degree Bend .....	+‡
45 Degree Bend .....	+×
90 Degree Bend .....	+†
Plug .....	⊥
Tee .....	+†
Cross .....	+†
Reducer .....	▶
Gate Valve .....	GV
Butterfly Valve .....	BV
Tapping Valve .....	TGV
Line Stop .....	LS
Line Stop with Bypass .....	LS/BP
Blow Off .....	BO
Fire Hydrant .....	PH
Relocate Fire Hydrant .....	REH
Remove Fire Hydrant .....	REM FH
Water Meter .....	PWM
Relocate Water Meter .....	RWM
Remove Water Meter .....	REM WM
Water Pump Station .....	PS(W)
RPZ Backflow Preventer .....	RPZ
DCV Backflow Preventer .....	DCV
Relocate RPZ Backflow Preventer .....	RRPZ
Relocate DCV Backflow Preventer .....	RDCV

### PROPOSED SEWER SYMBOLS

Gravity Sewer Line (Sized as Shown) .....	12" SS
Force Main Sewer Line (Sized as Shown) .....	12" FSS
Manhole (Sized per Note) .....	•
Sewer Pump Station .....	PS(SS)

### PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

Power Pole .....	⊙
Telephone Pole .....	⊙
Joint Use Pole .....	⊙
Telephone Pedestal .....	TE PED
Utility Line by Others (Type as Shown) .....	PROP O/H POW LINES
Trenchless Installation .....	12" TL INSTALL
Encasement by Open Cut .....	24" ENCAS BY OC
Encasement .....	24" ENCASUREMENT

Thrust Block .....	⊥
Air Release Valve .....	AR
Utility Vault .....	UV
Concrete Pier .....	CP
Steel Pier .....	SP
Plan Note .....	NOTE
Pay Item Note .....	PAY ITEM

### EXISTING UTILITIES SYMBOLS

Power Pole .....	⊙	*Underground Power Line .....	P
Telephone Pole .....	⊙	*Underground Telephone Cable .....	T
Joint Use Pole .....	⊙	*Underground Telephone Conduit .....	TC
Utility Pole .....	•	*Underground Fiber Optics Telephone Cable .....	T FO
Utility Pole with Base .....	□	*Underground TV Cable .....	TV
H-Frame Pole .....	•—•	*Underground Fiber Optics TV Cable .....	TV FO
Power Transmission Line Tower .....	⊠	*Underground Gas Pipeline .....	G
Water Manhole .....	⊙	Aboveground Gas Pipeline .....	A/G Gas
Power Manhole .....	⊙	*Underground Water Line .....	W
Telephone Manhole .....	⊙	Aboveground Water Line .....	A/G Water
Sanitary Sewer Manhole .....	⊙	*Underground Gravity Sanitary Sewer Line .....	SS
Hand Hole for Cable .....	⊠	Aboveground Gravity Sanitary Sewer Line .....	A/G Sanitary Sewer
Power Transformer .....	⊠	*Underground SS Forced Main Line .....	FSS
Telephone Pedestal .....	⊠	Underground Unknown Utility Line .....	UTIL
CATV Pedestal .....	⊠	SUE Test Hole .....	⊙
Gas Valve .....	◇	Water Meter .....	⊙
Gas Meter .....	⊙	Water Valve .....	⊙
Located Miscellaneous Utility Object .....	⊙	Fire Hydrant .....	⊙
Abandoned According to Utility Records .....	AATUR	Sanitary Sewer Cleanout .....	⊙
End of Information .....	E.O.I.		

\*For Existing Utilities  
 Utility Line Drawn from Record (Type as Shown) .....  
 Designated Utility Line (Type as Shown) .....

12/12/2024




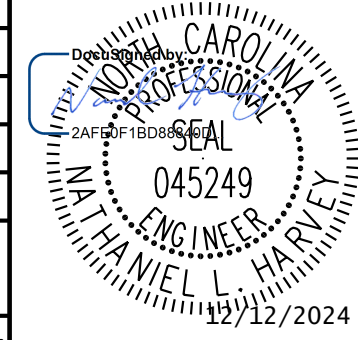
5/14/19

# NCDOT GENERAL UTILITY NOTES:

1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2018.
2. THE EXISTING UTILITIES BELONG TO TRIRIVER WATER.
3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL AND NATURAL RESOURCES, DIVISION OF WATER RESOURCES, PUBLIC WATER SUPPLY SECTION. ALL SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL AND NATURAL RESOURCES, WATER QUALITY SECTION. PERFORM ALL WORK IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODES.
4. THE UTILITY OWNER OWNS THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY THE DEPARTMENT AND THE UTILITY OWNER THE DEPARTMENT OWNS THE CONSTRUCTION CONTRACT AND HAS ADMINISTRATIVE AUTHORITY. COMMUNICATIONS AND DECISIONS BETWEEN THE CONTRACTOR AND UTILITY OWNER ARE NOT BINDING UPON THE DEPARTMENT OR THIS CONTRACT UNLESS AUTHORIZED BY THE ENGINEER. AGREEMENTS BETWEEN THE UTILITY OWNER AND CONTRACTOR FOR THE WORK THAT IS NOT PART OF THIS CONTRACT OR IS SECONDARY TO THIS CONTRACT ARE ALLOWED, BUT ARE NOT BINDING UPON THE DEPARTMENT.
5. PROVIDE ACCESS FOR THE DEPARTMENT PERSONNEL AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND A MINIMUM OF ONE WEEK PRIOR TO SERVICE INTERRUPTIONS AND TESTING. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPROTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.
6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING DAMAGE TO EXISTING FACILITIES. REPAIR ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITONAL COST TO THE DEPARTMENT.
7. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.
8. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER\*S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.
9. ALL UTILITY MATERIALS SHALL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT. SEE 1500-7, " SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE STANDARD SPECIFICATIONS.

# PROJECT SPECIFIC UTILITY NOTES:

1. DEVIATION FROM THESE PLANS AND NOTES WITHOUT THE PRIOR WRITTEN CONSENT OF THE UTILITY OWNER OR THEIR REPRESENTATIVE OR THE ENGINEER MAY BE CAUSE FOR THE WORK TO BE UNACCEPTABLE.
2. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SHOULD ANY FIELD CONDITIONS BE ENCOUNTERED THAT VARY FROM THE INFORMATION PROVIDED IN THE CONTRACT DOCUMENTS. ANY NECESSARY FIELD REVISIONS ARE SUBJECT TO REVIEW & APPROVAL OF AN AMENDED PLAN &/OR PROFILE BY THE UTILITY OWNER PRIOR TO CONSTRUCTION.
3. CONTRACTOR SHALL COORDINATE ALL WORK WITH UTILITY OWNER AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION, OR AS OTHERWISE SPECIFIED HEREIN.
4. CONTRACTOR SHALL PROVIDE PLS-SEALED AS-BUILT SURVEY FOR ALL UTILITY CONSTRUCTION PRIOR TO PLACING THE PIPELINE(S) IN SERVICE
5. PIPE ALIGNMENT SHOWN IS BASED ON STANDARD DUCTILE IRON MECHANICAL JOINT FITTINGS. JOINT DEFLECTIONS SHALL NOT EXCEED 75 PERCENT OF MANUFACTURER'S RECOMMENDED DEFLECTION. CONTRACTOR SHALL ADJUST PIPELINE ALIGNMENT AND DEFLECT JOINTS AS NECESSARY TO ACCOMMODATE THE STANDARD BENDS SHOWN.
6. ALL PIPE FITTINGS SHALL BE DUCTILE IRON RESTRAINED MECHANICAL JOINT WITH PRESSURE RATING EQUAL TO OR HIGHER THAN HOST PIPE, UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
7. ALL MECHANICAL JOINT CONNECTIONS SHALL BE RESTRAINED WITH WEDGE-TYPE MECHANICAL RESTRAINT ACCESSORY KITS DESIGNED FOR THE INTENDED USE AND MATERIAL, AS APPROVED BY UTILITY OWNER.
8. ALL UTILITY PIPING SHALL BE IDENTIFIED WITH DETECTABLE WARNING TAPE AND MARKER BALLS IN ACCORDANCE WITH OWNER SPECIFICATIONS.

 300 MORRIS STREET, SUITE 200 DURHAM, NC 27701	PROJECT REFERENCE NO.	SHEET NO.
	R-5930B	UC-3
DESIGNED BY: NLH		UTILITY CONSTRUCTION PLANS ONLY
DRAWN BY: JNB		
CHECKED BY: NDR		
APPROVED BY: NLH		
REVISED:	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

## UTILITY CONSTRUCTION

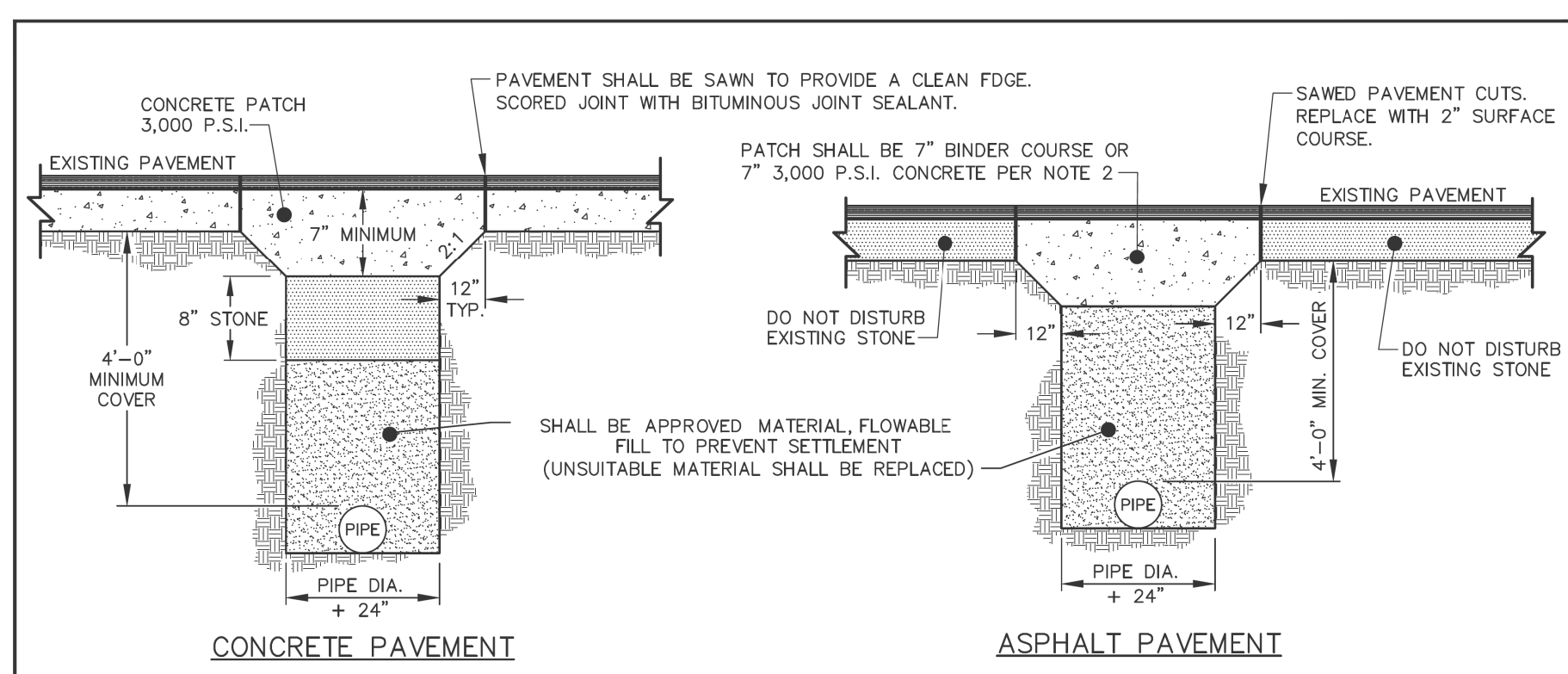
12/12/2024



5/14/19

PROJECT REFERENCE NO.	SHEET NO.
<b>R-5930B</b>	UC-3A
DESIGNED BY: <b>NLH</b>	
DRAWN BY: <b>JNB</b>	
CHECKED BY: <b>NDR</b>	
APPROVED BY: <b>NLH</b>	
REVISED:	UTILITY CONSTRUCTION PLANS ONLY
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

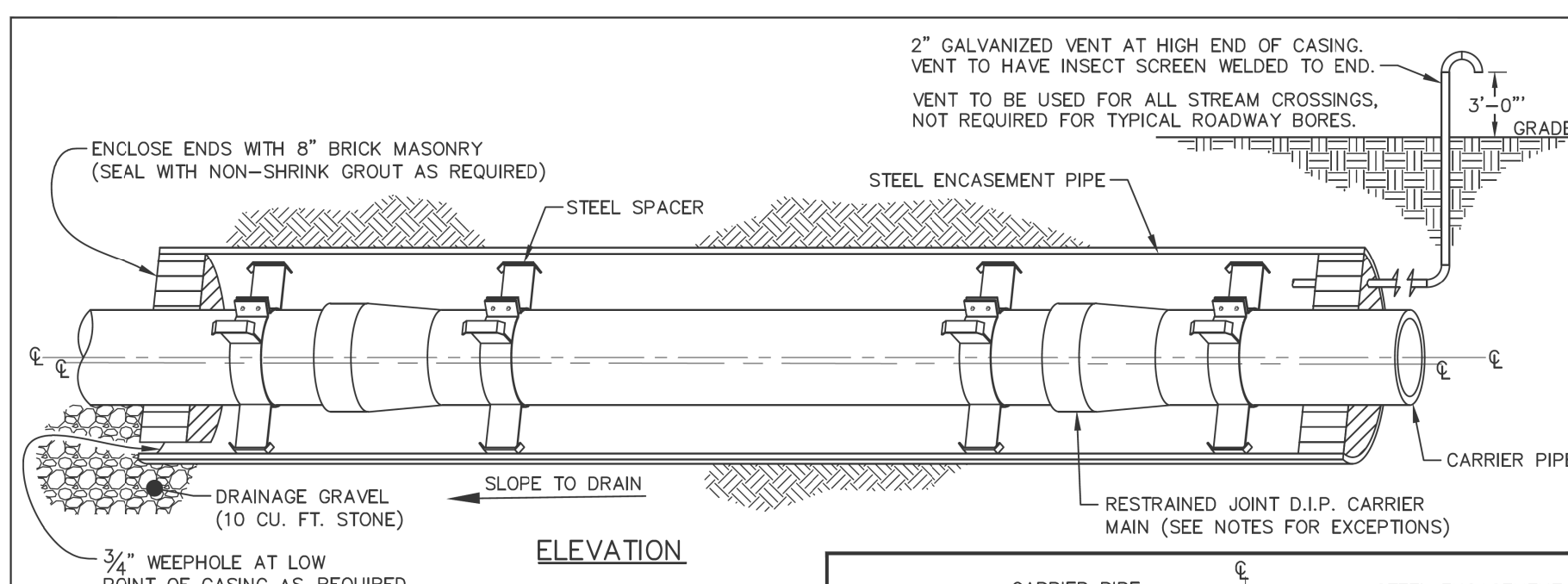
**UTILITY CONSTRUCTION**



**CONCRETE PAVEMENT**  
**ASPHALT PAVEMENT**

**NOTES:**  
 1. ALL PAVEMENT CUTS SHALL BE REPAIRED WITHIN A MAXIMUM OF THREE (3) DAYS FROM THE DATE THE CUT IS MADE.  
 2. CONCRETE TRENCH CAP ON ASPHALT STREETS SHALL BE USED ONLY DURING INCLEMENT WEATHER WHEN ASPHALT PLANTS ARE NOT OPERATING.  
 3. IN ALL OPEN TRENCHES, BACKFILL SHALL BE COMPACTED TO 95% MAXIMUM DRY DENSITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING COMPACTION REQUIREMENTS BY SOILS TESTING CERTIFIED BY A LICENSED PROFESSIONAL GEOTECHNICAL ENGINEER.  
 4. BACKFILL WITH A HIGH CLAY CONTENT, HIGH SHRINK-SWELL POTENTIAL, OR HIGH MOISTURE CONTENT THAT CANNOT MEET COMPACTION REQUIREMENTS SHALL BE DEEMED UNSUITABLE AND SHALL BE REPLACED WITH SUITABLE BACKFILL MATERIAL.  
 5. ALL PAVEMENT PATCHES SHALL PROVIDE A UNIFORM AND SMOOTH DRIVING SURFACE.

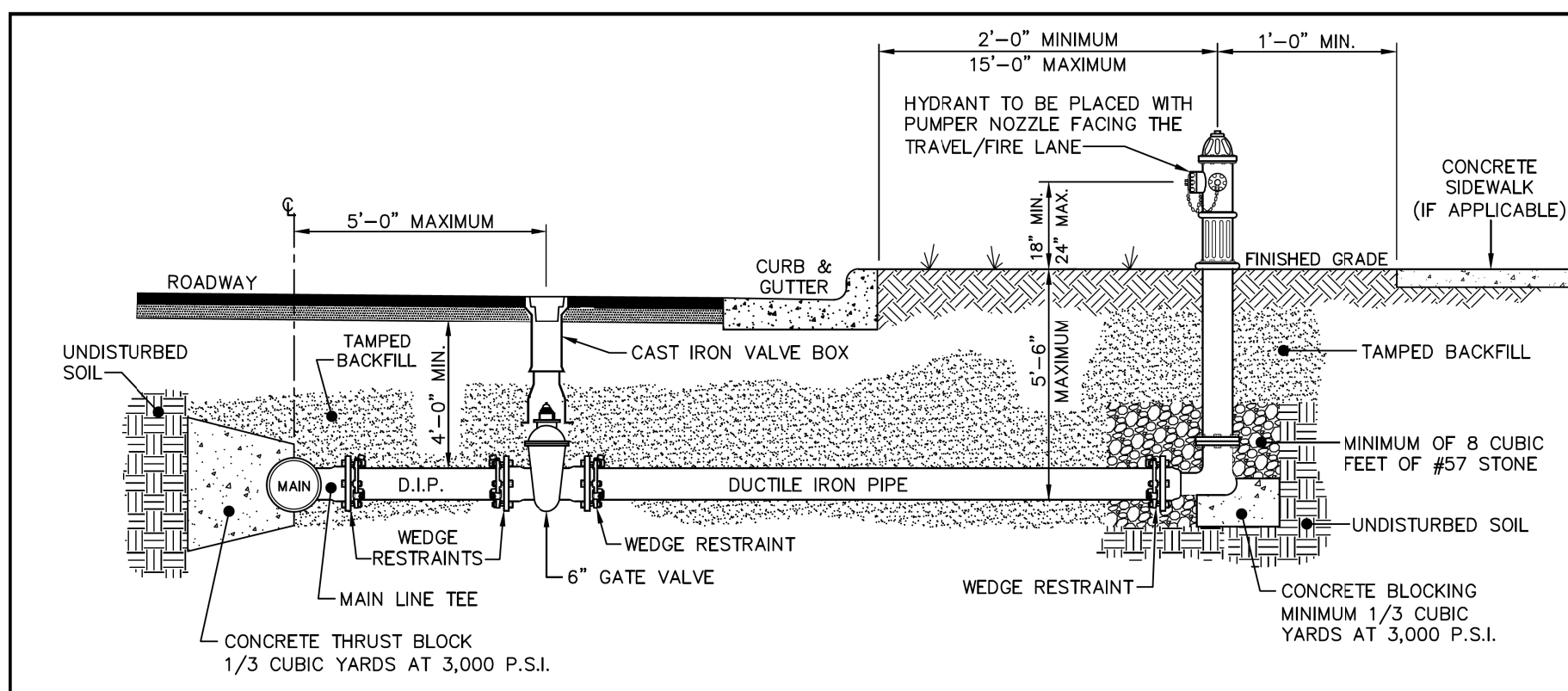
**TOWN OF PITTSBORO**  
 STANDARD CONSTRUCTION DETAIL  
 STANDARD NO. UT-02-001  
 EFFECTIVE: 4/11/22



**ELEVATION**  
**END ELEVATION**

**NOTES:**  
 1. STEEL SPACERS SHALL BE USED FOR SUPPORT OF THE CARRIER PIPE WITHIN THE CASING PIPE.  
 2. A MINIMUM SPACING OF 2 SPACERS PER JOINT OF CARRIER PIPE SHALL BE REQUIRED. 3 SPACERS ARE REQUIRED FOR CARRIER PIPE ≥ 36 INCHES.  
 3. THE SPACERS SHALL BE LOCATED EVENLY ALONG THE CARRIER PIPE SUCH THAT EACH SPACER SUPPORTS THE SAME UNIT WEIGHT OF THE CARRIER MAIN.  
 4. VENT OPENING SHALL BE INSTALLED 12" ABOVE 100-YEAR FLOOD ELEVATION OR 36" ABOVE EXISTING GRADE, WHICHEVER IS HIGHER.

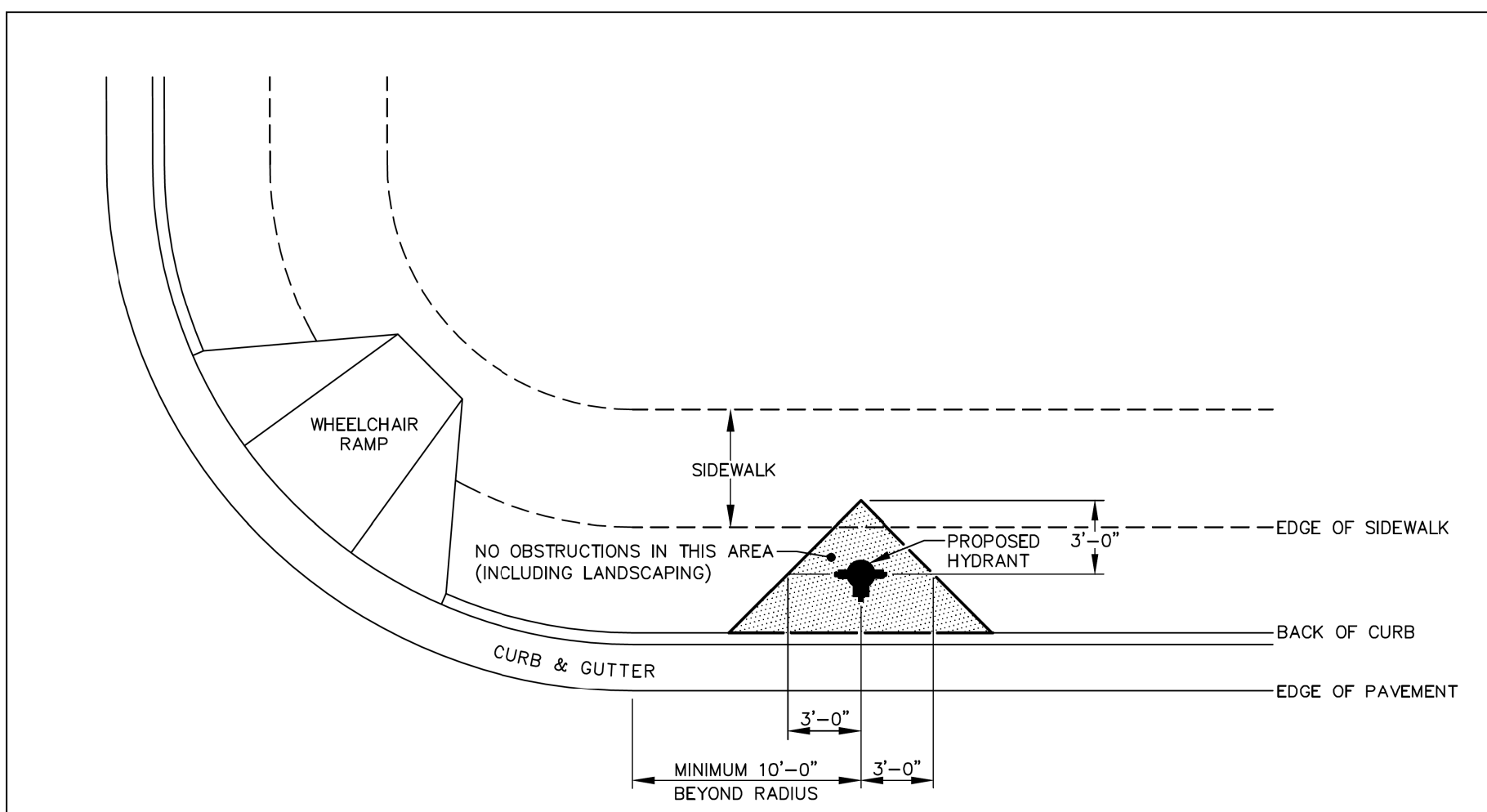
**TOWN OF PITTSBORO**  
 STANDARD CONSTRUCTION DETAIL  
 STANDARD NO. UT-02-002  
 EFFECTIVE: 4/11/22



**STANDARD HYDRANT INSTALLATION FOR ROADS WITH CURB & GUTTER**

**NOTES:**  
 1. TOP OF BLOCKING TO BE 2 INCHES FROM HYDRANT WEEP HOLES.  
 2. IF HYDRANT IS LOCATED ON A DEPARTMENT OF TRANSPORTATION ROADWAY USE D.O.T. STANDARDS FOR LOCATION OF HYDRANT.  
 3. HYDRANT SHALL BE LOCATED FROM 2 TO 15 FEET FROM BACK OF CURB.  
 4. HYDRANT MAY BE LOCATED (AT LEAST 1 FOOT) BEHIND SIDEWALK WHEN IT CANNOT BE LOCATED INSIDE THE UTILITY STRIP.  
 5. HYDRANT SHALL BE INSTALLED AT LEAST 2 FEET BEYOND TOP SLOPE OF ANY DRAINAGE DITCHES. HYDRANT INSTALLATION WITHIN THE DITCH LINE OR SLOPE SHALL BE PROHIBITED.  
 6. STANDARD WEDGE ACTION RETAINER GLANDS, THRUST BLOCK, AND 3/4 INCH STAINLESS STEEL RODDING ARE REQUIRED IN ORDER TO ACHIEVE CONTINUOUS RESTRAINT BETWEEN THE HYDRANT AND THE MAIN.  
 7. HYDRANT EXTENSIONS ARE PROHIBITED.  
 8. HYDRANTS NEAR FDC'S SHALL BE PROVIDED WITH A STORZ CONNECTION.

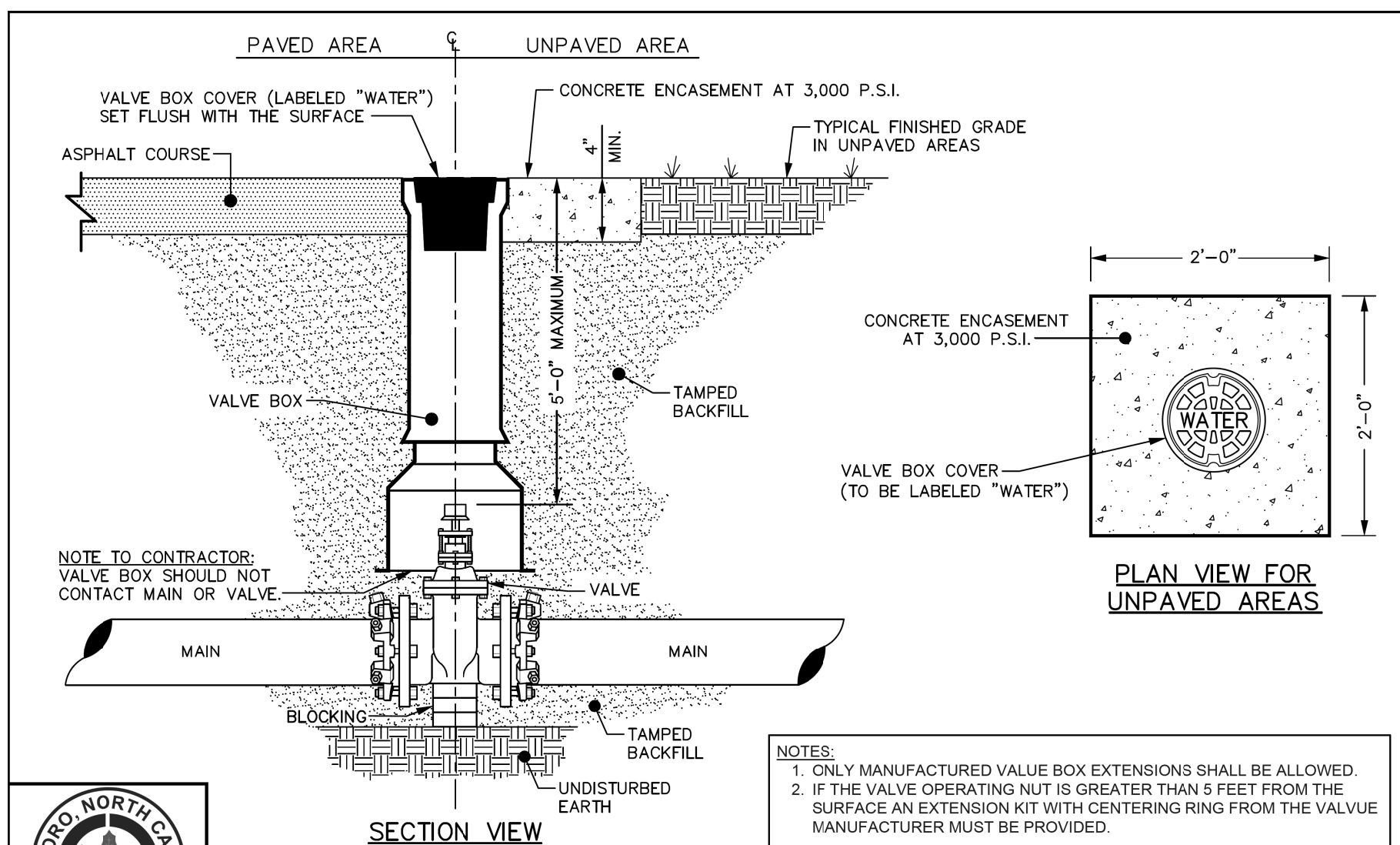
**TOWN OF PITTSBORO**  
 STANDARD CONSTRUCTION DETAIL  
 STANDARD NO. PW-03-010  
 EFFECTIVE: 2/14/22



**STANDARD HYDRANT LOCATION**

**NOTES:**  
 NO OBSTRUCTIONS IN THIS AREA (INCLUDING LANDSCAPING)

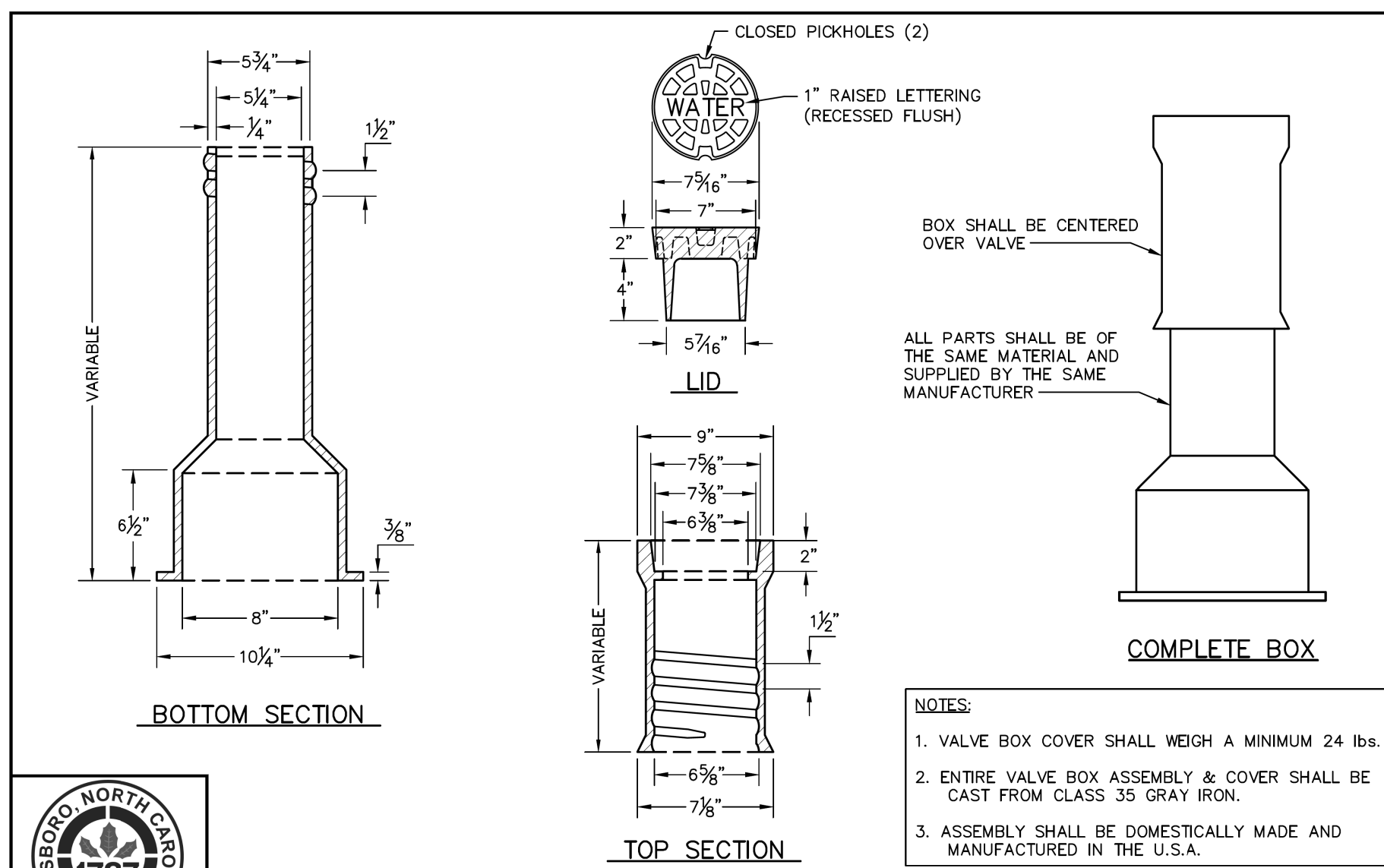
**TOWN OF PITTSBORO**  
 STANDARD CONSTRUCTION DETAIL  
 STANDARD NO. PW-03-013  
 EFFECTIVE: 2/14/22



**STANDARD WATER VALVE BOX INSTALLATION (1 OF 2)**

**NOTES:**  
 1. ONLY MANUFACTURED VALVE BOX EXTENSIONS SHALL BE ALLOWED.  
 2. IF THE VALVE OPERATING NUT IS GREATER THAN 5 FEET FROM THE SURFACE AN EXTENSION KIT WITH CENTERING RING FROM THE VALVE MANUFACTURER MUST BE PROVIDED.

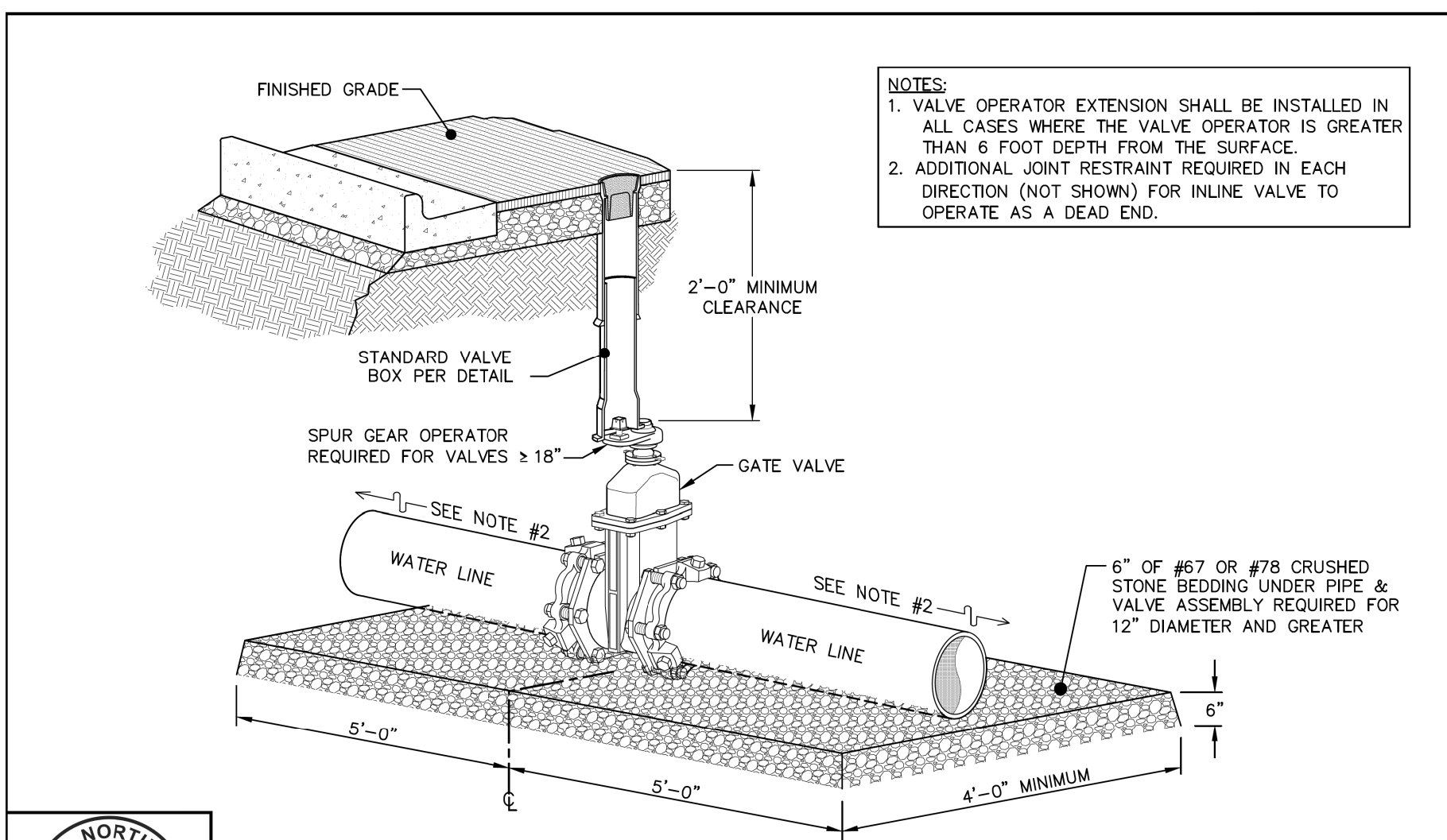
**TOWN OF PITTSBORO**  
 STANDARD CONSTRUCTION DETAIL  
 STANDARD NO. PW-03-015  
 EFFECTIVE: 2/14/22



**STANDARD WATER VALVE BOX INSTALLATION (2 OF 2)**

**NOTES:**  
 1. VALVE BOX COVER SHALL WEIGH A MINIMUM 24 LBS.  
 2. ENTIRE VALVE BOX ASSEMBLY & COVER SHALL BE CAST FROM CLASS 35 GRAY IRON.  
 3. ASSEMBLY SHALL BE DOMESTICALLY MADE AND MANUFACTURED IN THE U.S.A.

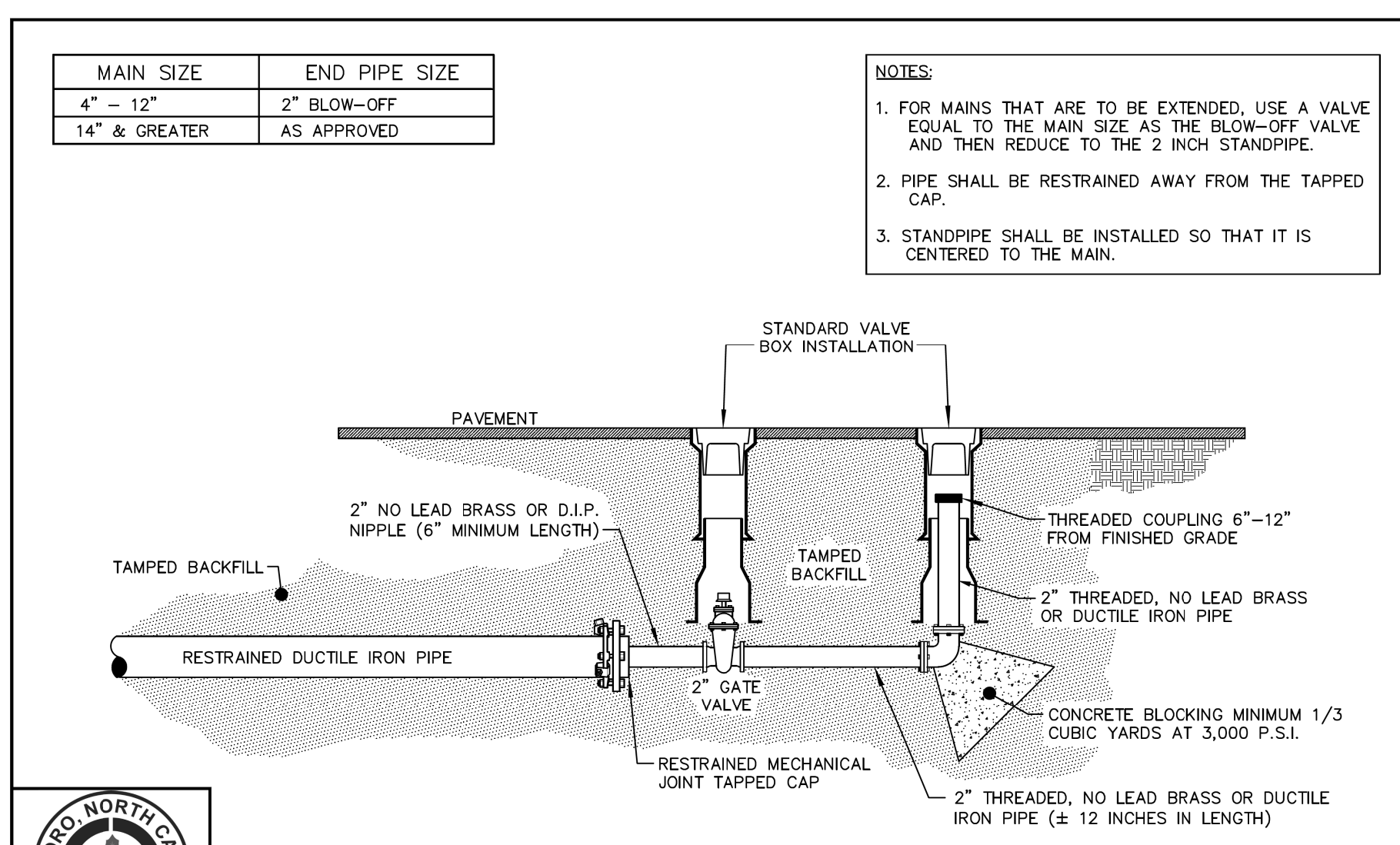
**TOWN OF PITTSBORO**  
 STANDARD CONSTRUCTION DETAIL  
 STANDARD NO. PW-03-016  
 EFFECTIVE: 2/14/22



**RESILIENT WEDGE GATE VALVE ASSEMBLY FOR VERTICAL INSTALLATIONS**

**NOTES:**  
 1. VALVE OPERATOR EXTENSION SHALL BE INSTALLED IN ALL CASES WHERE THE VALVE OPERATOR IS GREATER THAN 6 FOOT DEPTH FROM THE SURFACE.  
 2. ADDITIONAL JOINT RESTRAINT REQUIRED IN EACH DIRECTION (NOT SHOWN) FOR INLINE VALVE TO OPERATE AS A DEAD END.

**TOWN OF PITTSBORO**  
 STANDARD CONSTRUCTION DETAIL  
 STANDARD NO. PW-03-020  
 EFFECTIVE: 2/14/22



**STANDARD 2" BLOW-OFF ASSEMBLY**

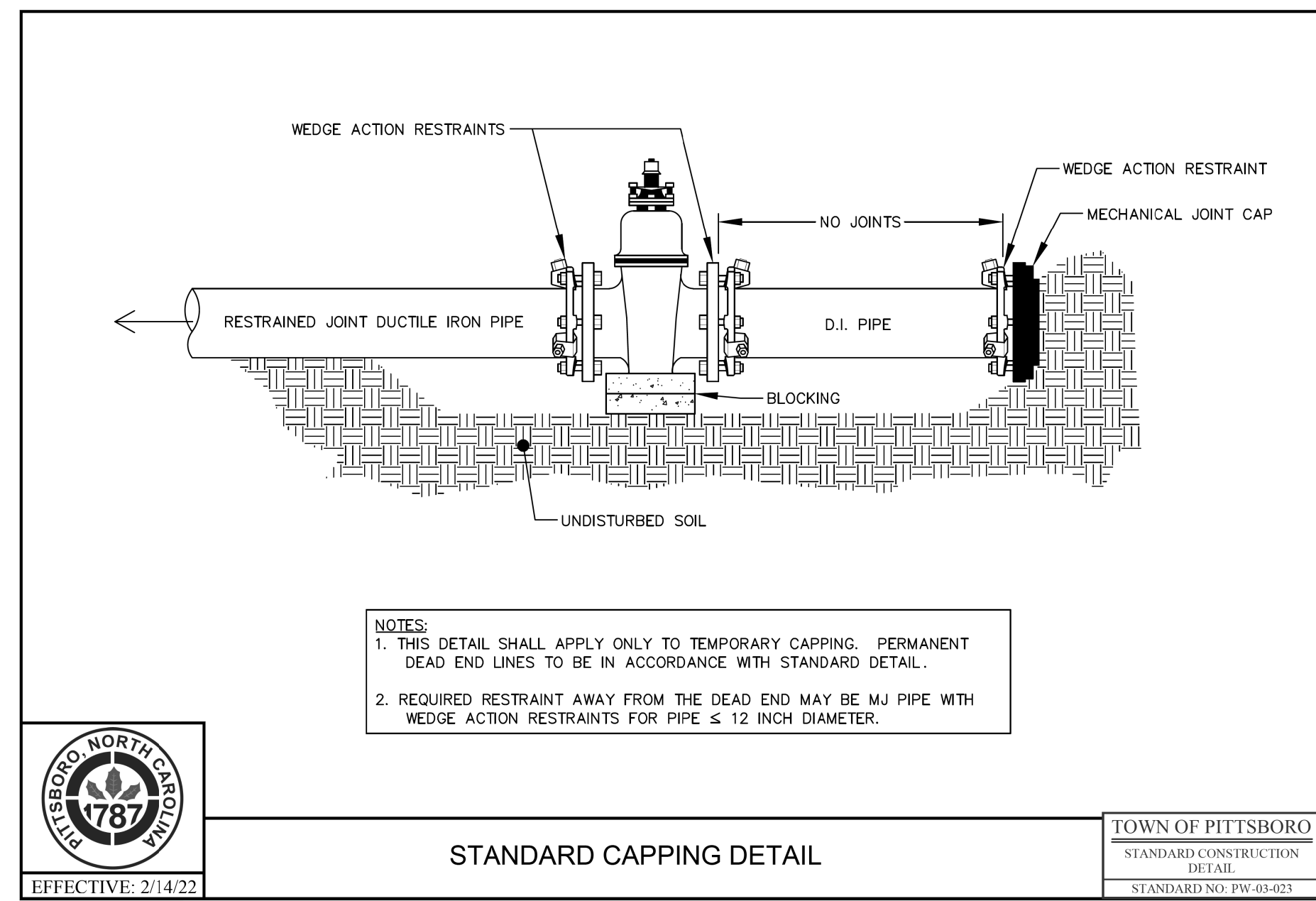
**NOTES:**  
 1. FOR MAINS THAT ARE TO BE EXTENDED, USE A VALVE EQUAL TO THE MAIN SIZE AS THE BLOW-OFF VALVE AND THEN REDUCE TO THE 2 INCH STANDPIPE.  
 2. PIPE SHALL BE RESTRAINED AWAY FROM THE TAPPED CAP.  
 3. STANDPIPE SHALL BE INSTALLED SO THAT IT IS CENTERED TO THE MAIN.

**TOWN OF PITTSBORO**  
 STANDARD CONSTRUCTION DETAIL  
 STANDARD NO. PW-03-022  
 EFFECTIVE: 2/14/22

12/12/2024

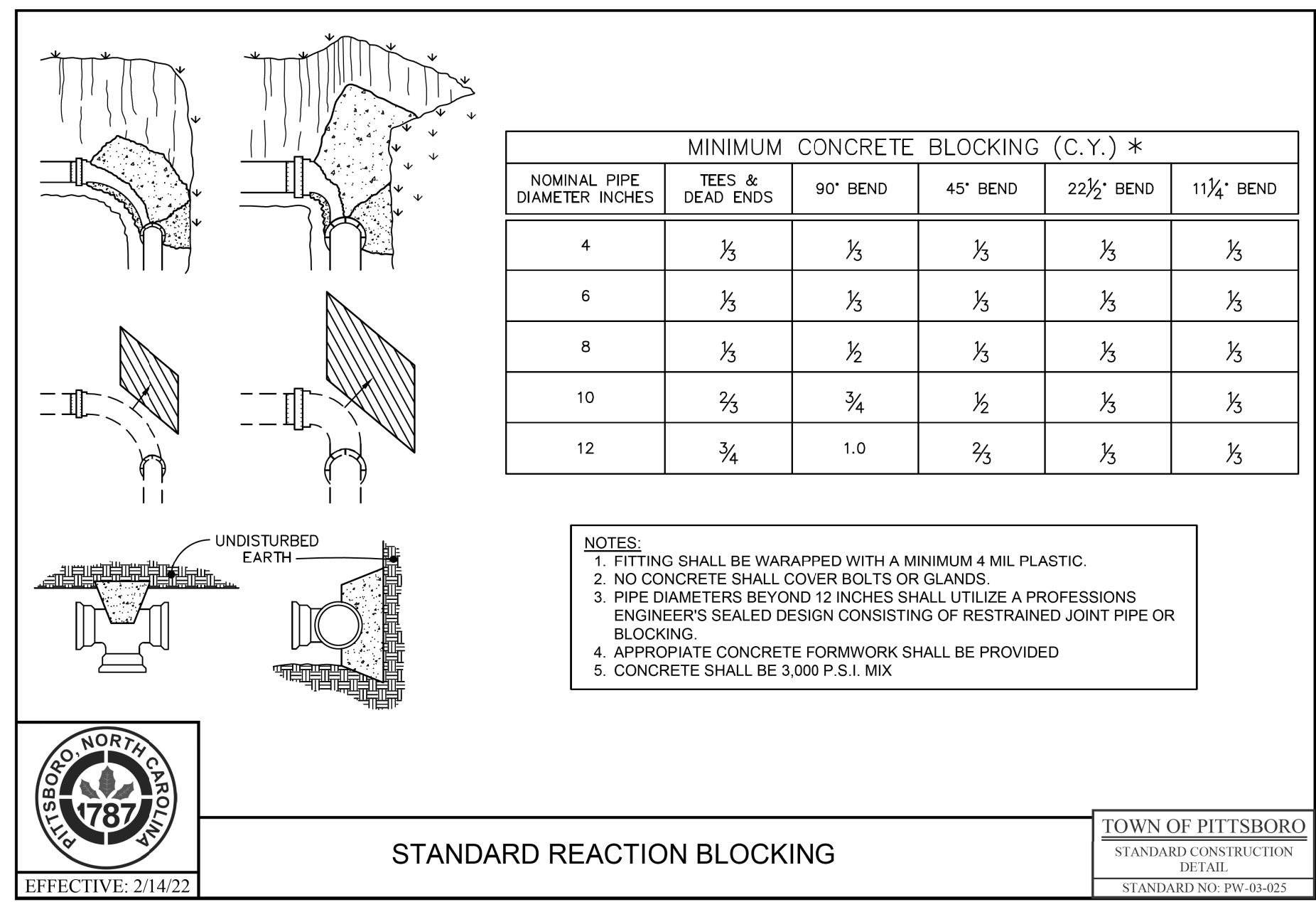


5/14/22



**STANDARD CAPPING DETAIL**

TOWN OF PITTSBORO  
 STANDARD CONSTRUCTION  
 DETAIL  
 STANDARD NO. PW-03-023  
 EFFECTIVE: 2/14/22



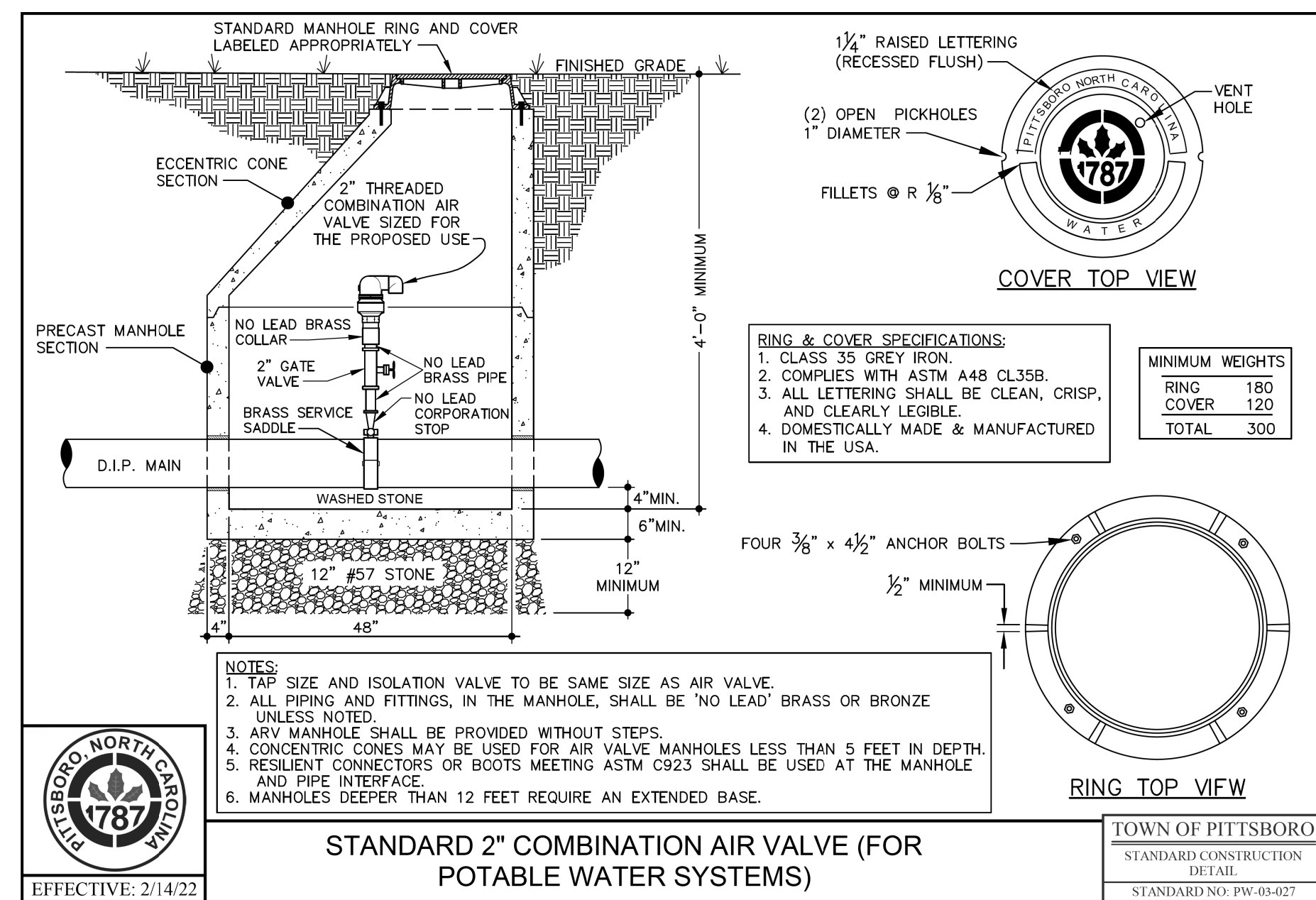
**STANDARD REACTION BLOCKING**

TOWN OF PITTSBORO  
 STANDARD CONSTRUCTION  
 DETAIL  
 STANDARD NO. PW-03-025  
 EFFECTIVE: 2/14/22

**Kimley»Horn**  
 300 MORRIS STREET, SUITE 200  
 DURHAM, NC 27701

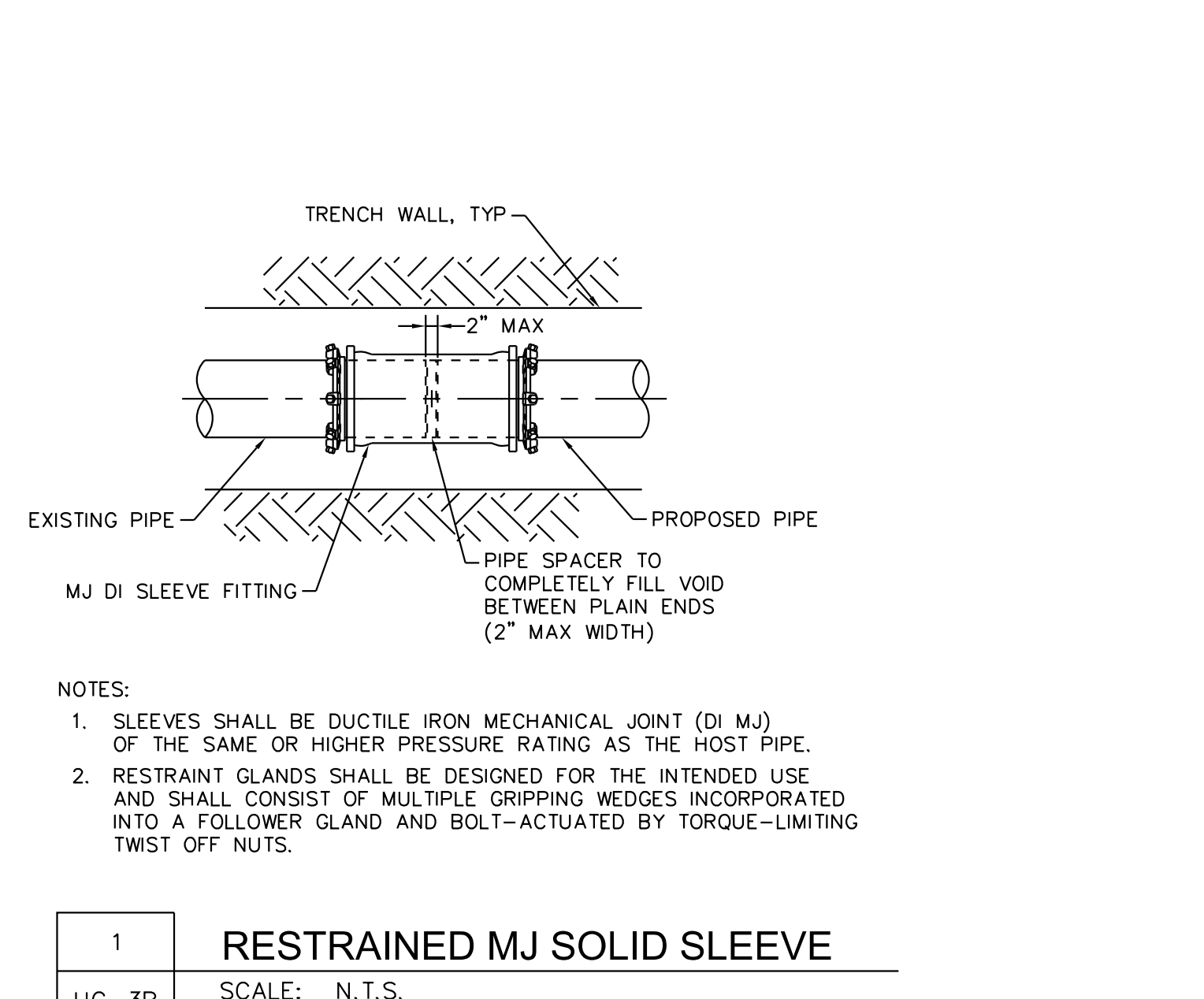
PROJECT REFERENCE NO.	SHEET NO.
R-5930B	UC-3B
DESIGNED BY: NLH	
DRAWN BY: JNB	
CHECKED BY: NDR	
APPROVED BY: NLH	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

**UTILITY CONSTRUCTION**

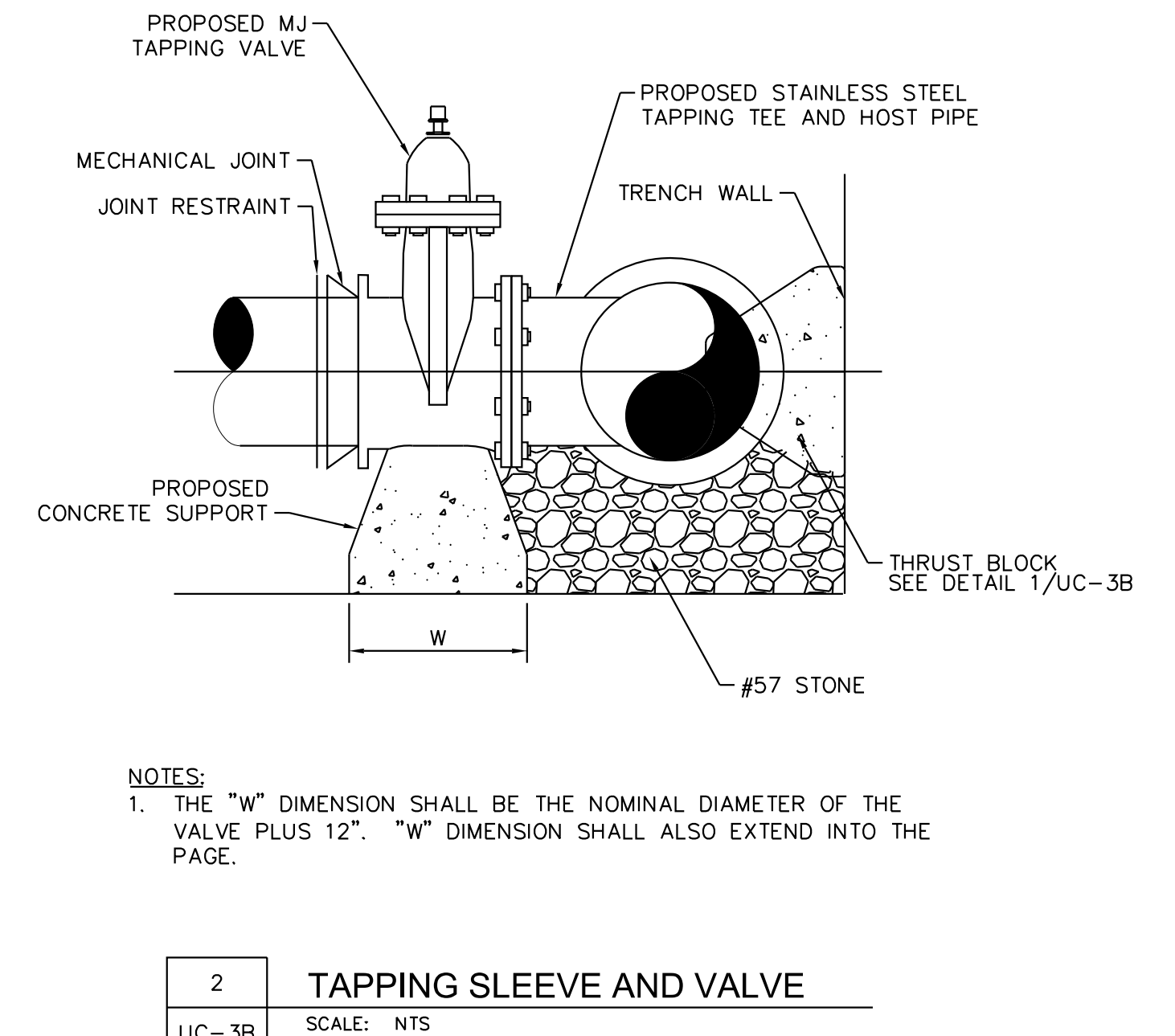


**STANDARD 2" COMBINATION AIR VALVE (FOR POTABLE WATER SYSTEMS)**

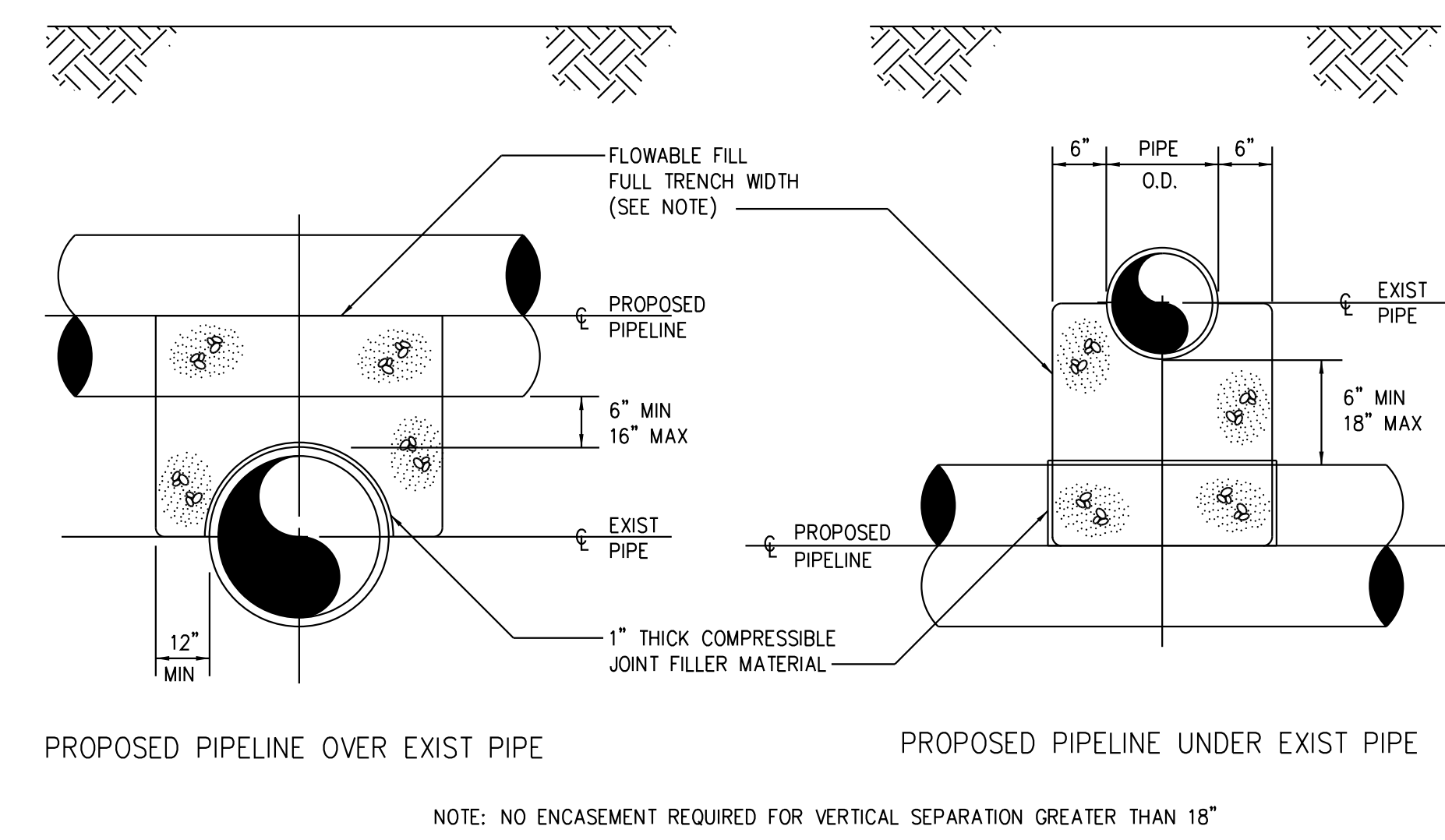
TOWN OF PITTSBORO  
 STANDARD CONSTRUCTION  
 DETAIL  
 STANDARD NO. PW-03-027  
 EFFECTIVE: 2/14/22



**1 RESTRAINED MJ SOLID SLEEVE**  
 SCALE: N.T.S.



**2 TAPPING SLEEVE AND VALVE**  
 SCALE: NTS



**3 PROPOSED PIPELINE OVER/UNDER EXIST PIPE**  
 SCALE: N.T.S.

12/12/2024







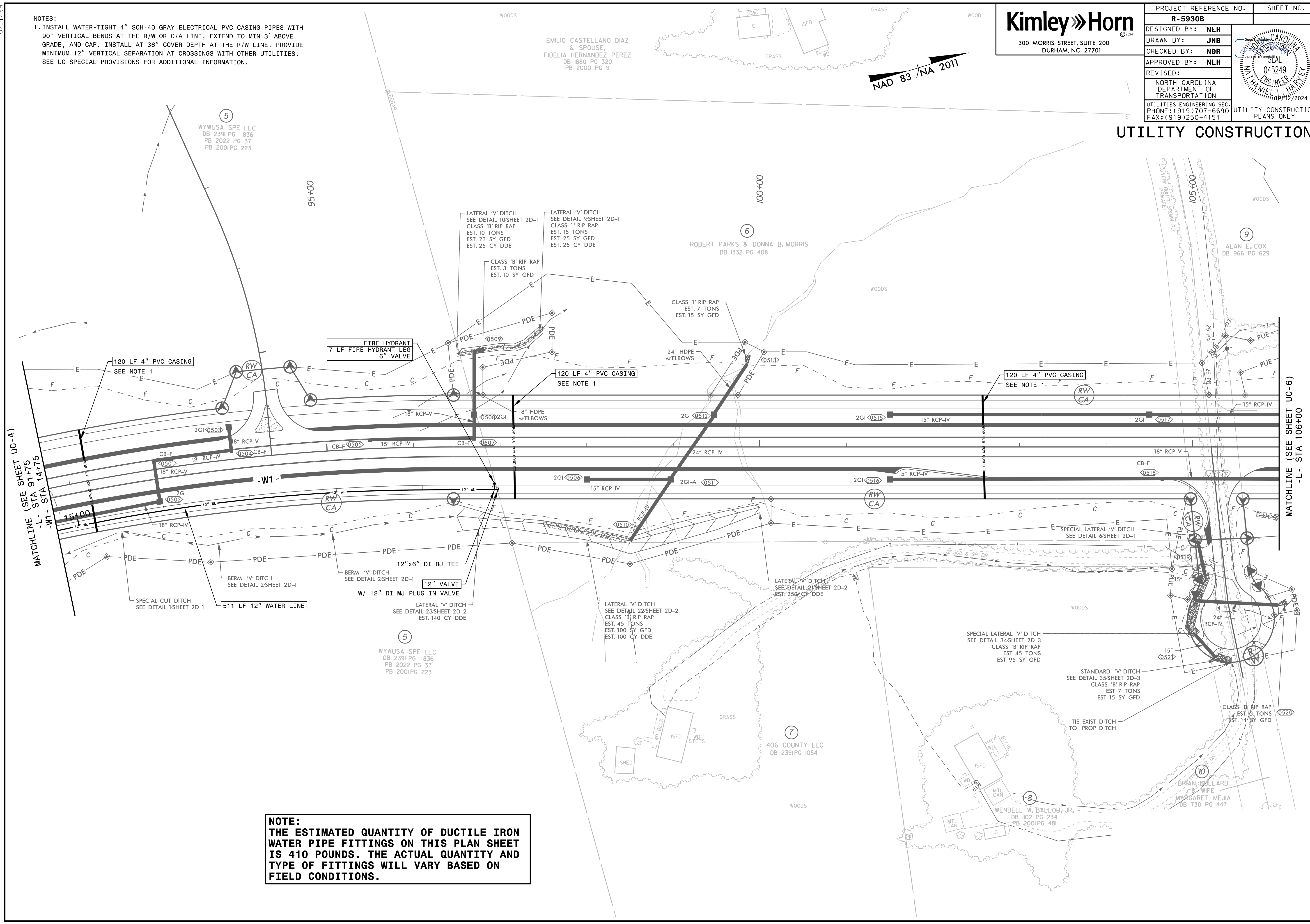
5/14/2024

NOTES:  
 1. INSTALL WATER-TIGHT 4" SCH-40 GRAY ELECTRICAL PVC CASING PIPES WITH 90° VERTICAL BENDS AT THE R/W OR C/A LINE, EXTEND TO MIN 3' ABOVE GRADE, AND CAP. INSTALL AT 36" COVER DEPTH AT THE R/W LINE. PROVIDE MINIMUM 12" VERTICAL SEPARATION AT CROSSINGS WITH OTHER UTILITIES. SEE UC SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.

**Kimley Horn**  
 300 MORRIS STREET, SUITE 200  
 DURHAM, NC 27701

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DESIGNED BY:	NLH		
DRAWN BY:	JNB		
CHECKED BY:	NDR		
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REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION			
UTILITIES ENGINEERING SEC. PHONE: (919)707-6690 FAX: (919)250-4151			
UTILITY CONSTRUCTION PLANS ONLY			

# UTILITY CONSTRUCTION



**NOTE:**  
 THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 410 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

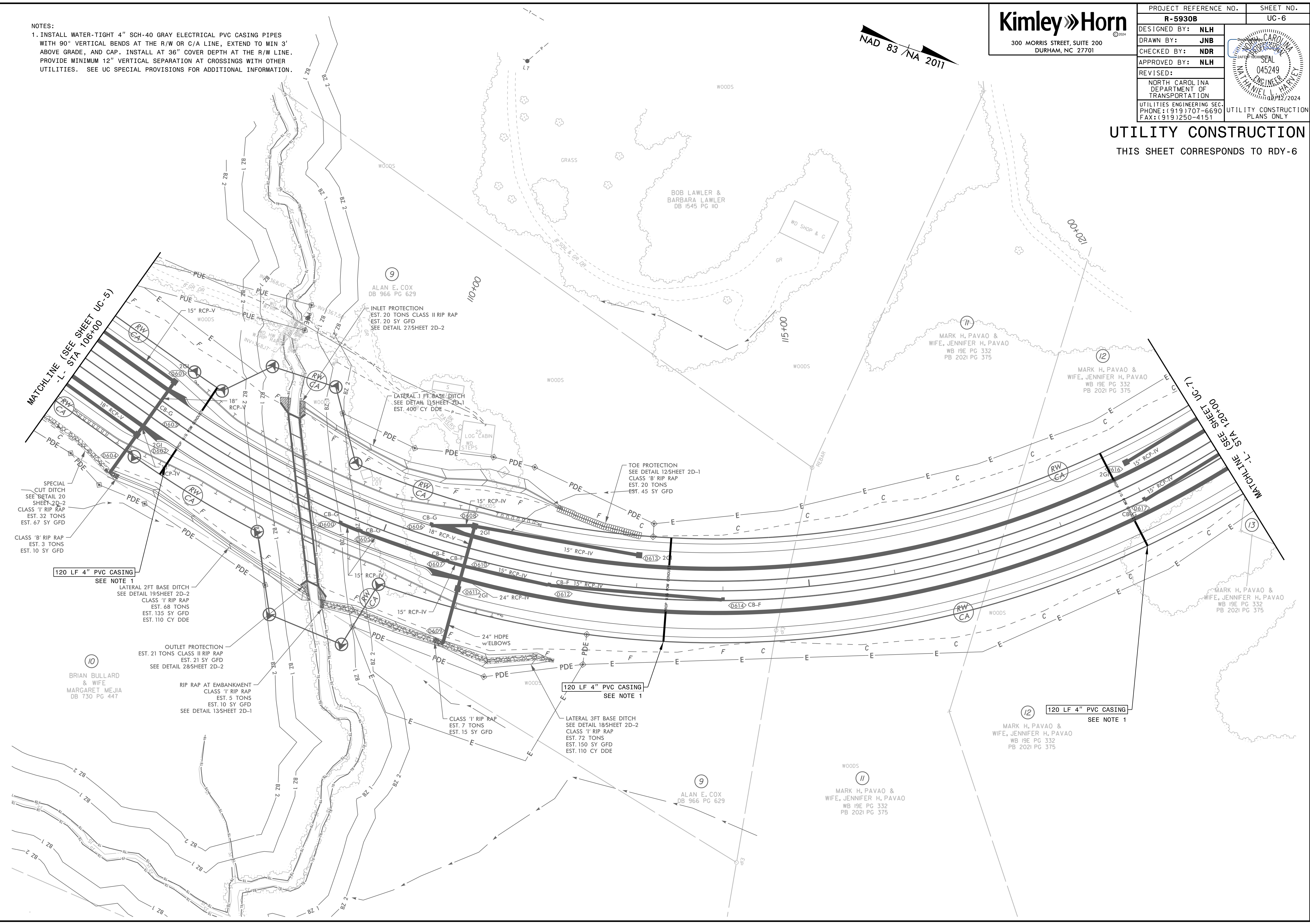
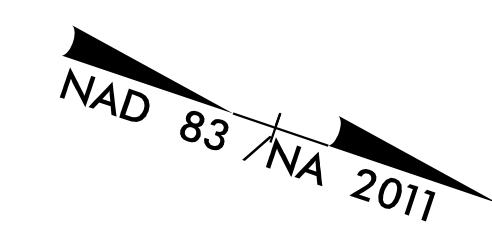
12/12/2024



PROJECT REFERENCE NO.	R-5930B	SHEET NO.	UC-6
DESIGNED BY:	NLH		
DRAWN BY:	JNB		
CHECKED BY:	NDR		
APPROVED BY:	NLH		
REVISED:		NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
		UTILITY CONSTRUCTION PLANS ONLY	

**UTILITY CONSTRUCTION**  
 THIS SHEET CORRESPONDS TO RDY-6

**NOTES:**  
 1. INSTALL WATER-TIGHT 4" SCH-40 GRAY ELECTRICAL PVC CASING PIPES WITH 90° VERTICAL BENDS AT THE R/W OR C/A LINE, EXTEND TO MIN 3' ABOVE GRADE, AND CAP. INSTALL AT 36" COVER DEPTH AT THE R/W LINE. PROVIDE MINIMUM 12" VERTICAL SEPARATION AT CROSSINGS WITH OTHER UTILITIES. SEE UC SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.



SPECIAL CUT DITCH  
 SEE DETAIL 20  
 SHEET 2D-2  
 CLASS '1' RIP RAP  
 EST. 32 TONS  
 EST. 67 SY GFD

CLASS 'B' RIP RAP  
 EST. 3 TONS  
 EST. 10 SY GFD

120 LF 4" PVC CASING  
 SEE NOTE 1

LATERAL 2 FT BASE DITCH  
 SEE DETAIL 19/SHEET 2D-2  
 CLASS '1' RIP RAP  
 EST. 68 TONS  
 EST. 135 SY GFD  
 EST. 110 CY DDE

OUTLET PROTECTION  
 EST. 21 TONS CLASS II RIP RAP  
 EST. 21 SY GFD  
 SEE DETAIL 28/SHEET 2D-2

10  
 BRIAN BULLARD  
 & WIFE  
 MARGARET MEJIA  
 DB 730 PG 447

RIP RAP AT EMBANKMENT  
 CLASS '1' RIP RAP  
 EST. 5 TONS  
 EST. 10 SY GFD  
 SEE DETAIL 13/SHEET 2D-1

CLASS '1' RIP RAP  
 EST. 15 TONS  
 EST. 15 SY GFD

120 LF 4" PVC CASING  
 SEE NOTE 1

LATERAL 3 FT BASE DITCH  
 SEE DETAIL 18/SHEET 2D-2  
 CLASS '1' RIP RAP  
 EST. 72 TONS  
 EST. 150 SY GFD  
 EST. 110 CY DDE

9  
 ALAN E. COX  
 DB 966 PG 629

11  
 MARK H. PAVAO &  
 WIFE, JENNIFER H. PAVAO  
 WB 19E PG 332  
 PB 2021 PG 375

12  
 MARK H. PAVAO &  
 WIFE, JENNIFER H. PAVAO  
 WB 19E PG 332  
 PB 2021 PG 375

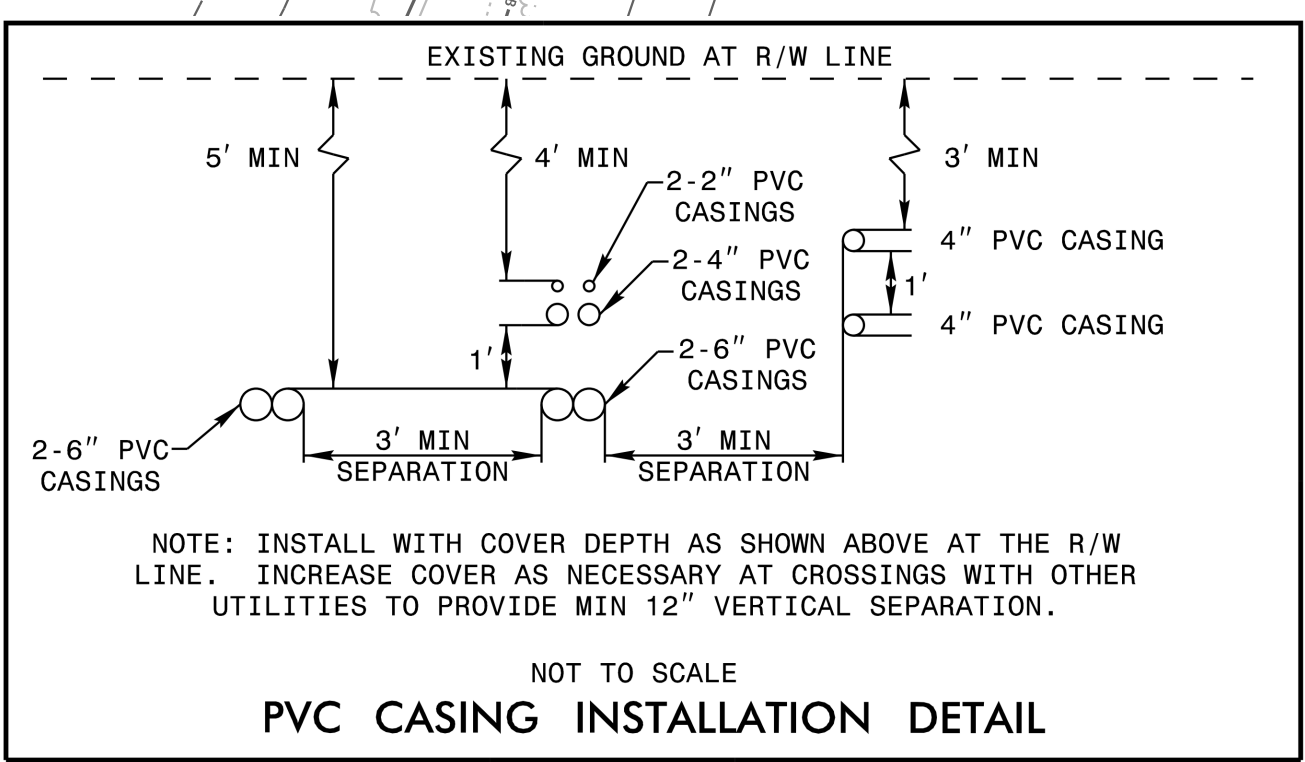
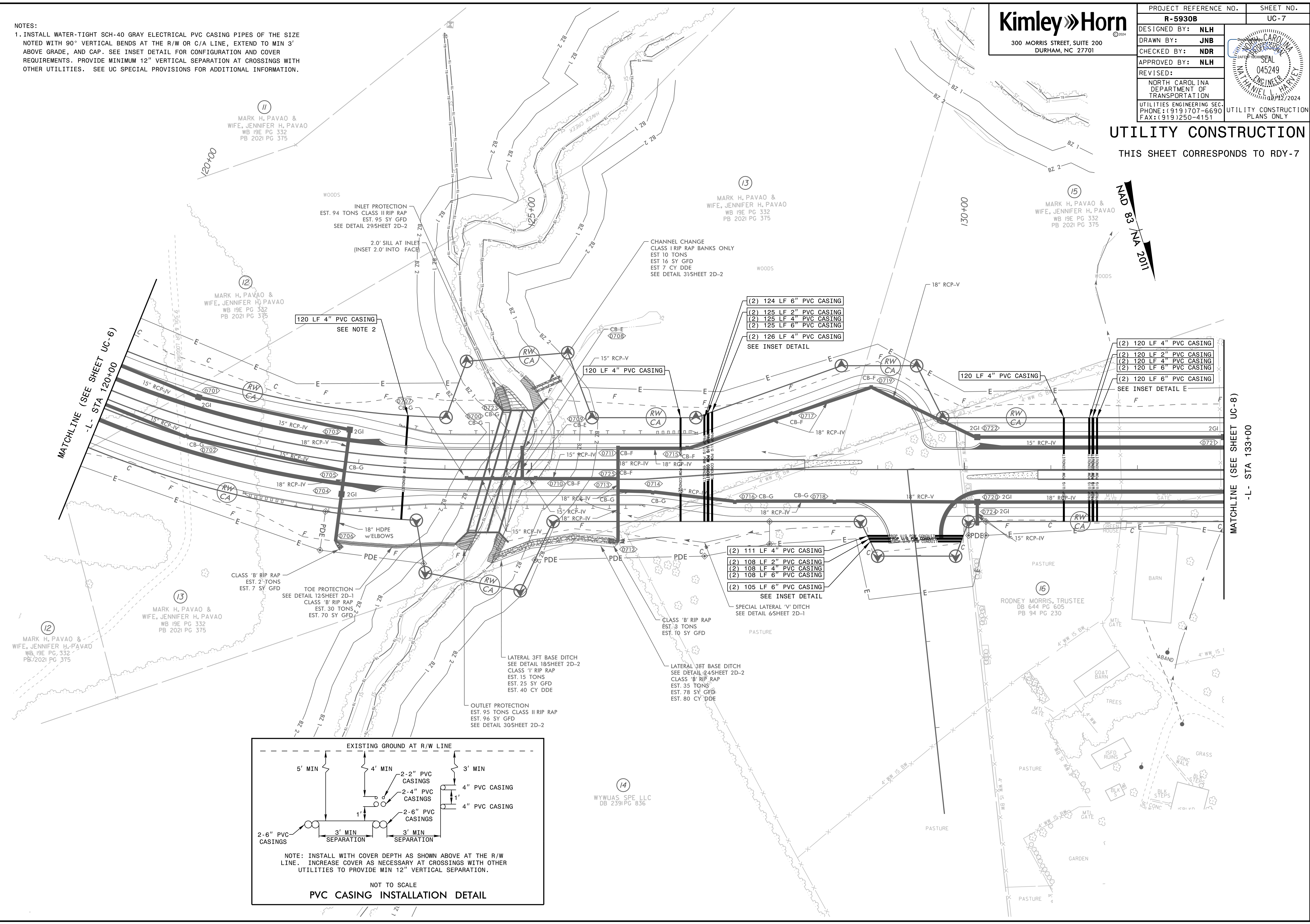
120 LF 4" PVC CASING  
 SEE NOTE 1



PROJECT REFERENCE NO.	SHEET NO.
R-5930B	UC-7
DESIGNED BY: NLH	
DRAWN BY: JNB	
CHECKED BY: NDR	
APPROVED BY: NLH	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919)707-6690 FAX: (919)250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

**UTILITY CONSTRUCTION**  
 THIS SHEET CORRESPONDS TO RDY-7

NOTES:  
 1. INSTALL WATER-TIGHT SCH-40 GRAY ELECTRICAL PVC CASING PIPES OF THE SIZE NOTED WITH 90° VERTICAL BENDS AT THE R/W OR C/A LINE, EXTEND TO MIN 3' ABOVE GRADE, AND CAP. SEE INSET DETAIL FOR CONFIGURATION AND COVER REQUIREMENTS. PROVIDE MINIMUM 12" VERTICAL SEPARATION AT CROSSINGS WITH OTHER UTILITIES. SEE UC SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.





5/14/2024

NOTES:

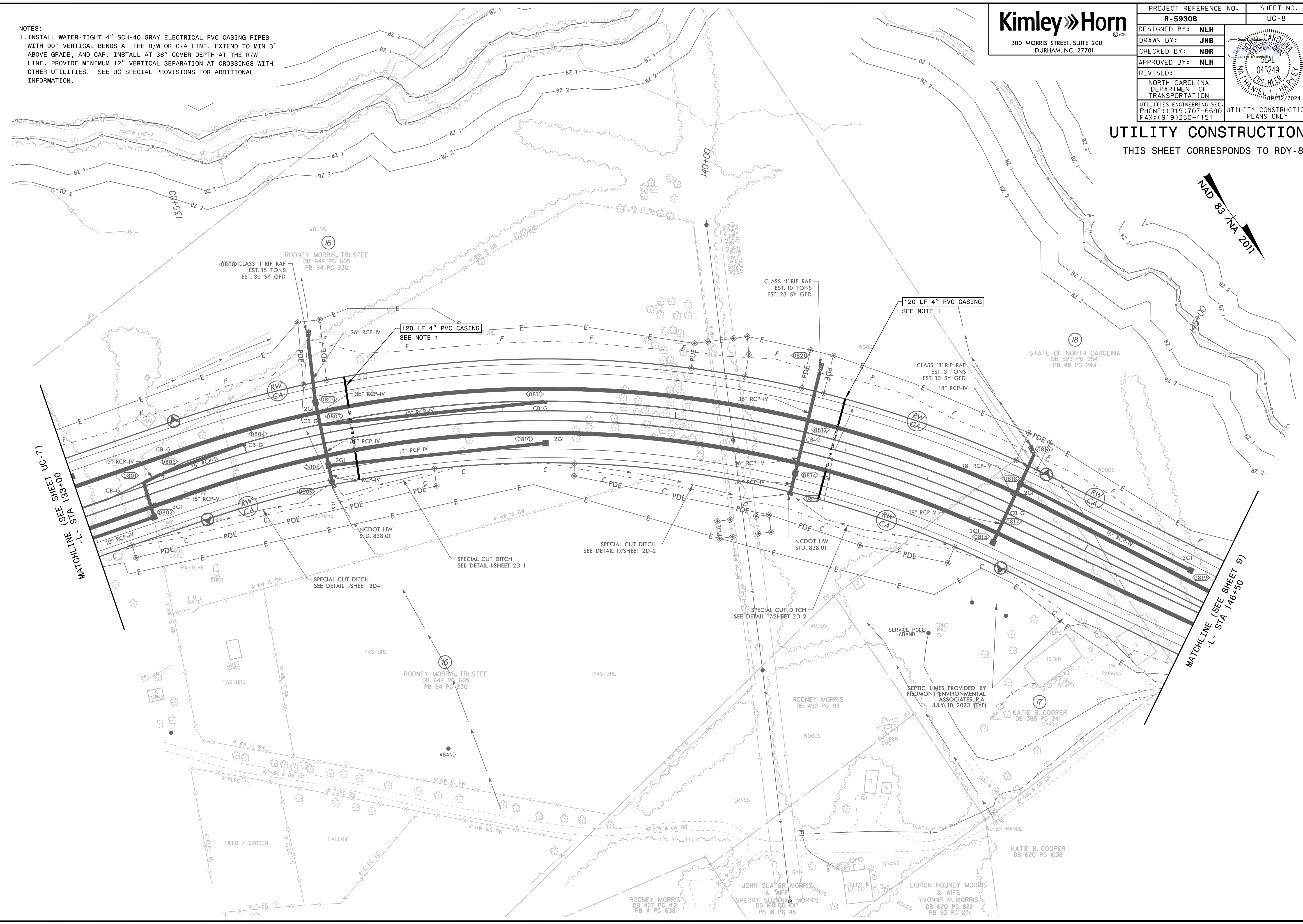
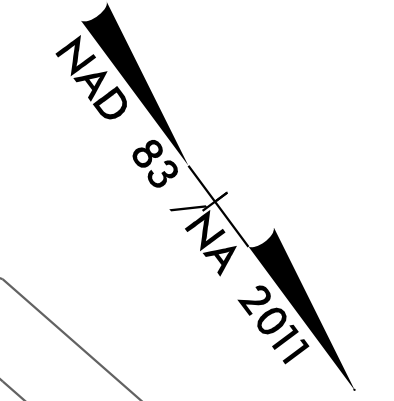
1. INSTALL WATER-TIGHT 4" SCH-40 GRAY ELECTRICAL PVC CASING PIPES WITH 90° VERTICAL BENDS AT THE R/W OR C/A LINE, EXTEND TO MIN 3' ABOVE GRADE, AND CAP. INSTALL AT 36" COVER DEPTH AT THE R/W LINE. PROVIDE MINIMUM 12" VERTICAL SEPARATION AT CROSSINGS WITH OTHER UTILITIES. SEE UC SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.

**Kimley Horn**

300 MORRIS STREET, SUITE 200  
DURHAM, NC 27701

PROJECT REFERENCE NO.	SHEET NO.
R-5930B	UC-8
DESIGNED BY: NLH	
DRAWN BY: JNB	
CHECKED BY: NDR	
APPROVED BY: NLH	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

**UTILITY CONSTRUCTION**  
THIS SHEET CORRESPONDS TO RDY-8



12/12/2024



5/14/2024

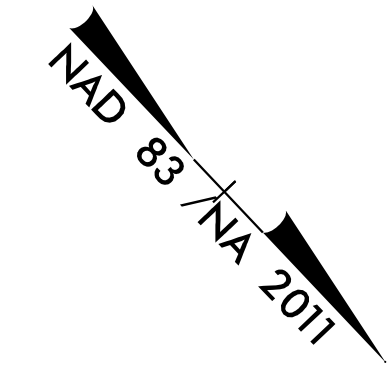
NOTES:

1. INSTALL WATER-TIGHT 4" SCH-40 GRAY ELECTRICAL PVC CASING PIPES WITH 90° VERTICAL BENDS AT THE R/W OR C/A LINE, EXTEND TO MIN 3' ABOVE GRADE, AND CAP. INSTALL AT 36" COVER DEPTH AT THE R/W LINE. PROVIDE MINIMUM 12" VERTICAL SEPARATION AT CROSSINGS WITH OTHER UTILITIES. SEE UC SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.

**Kimley»Horn**

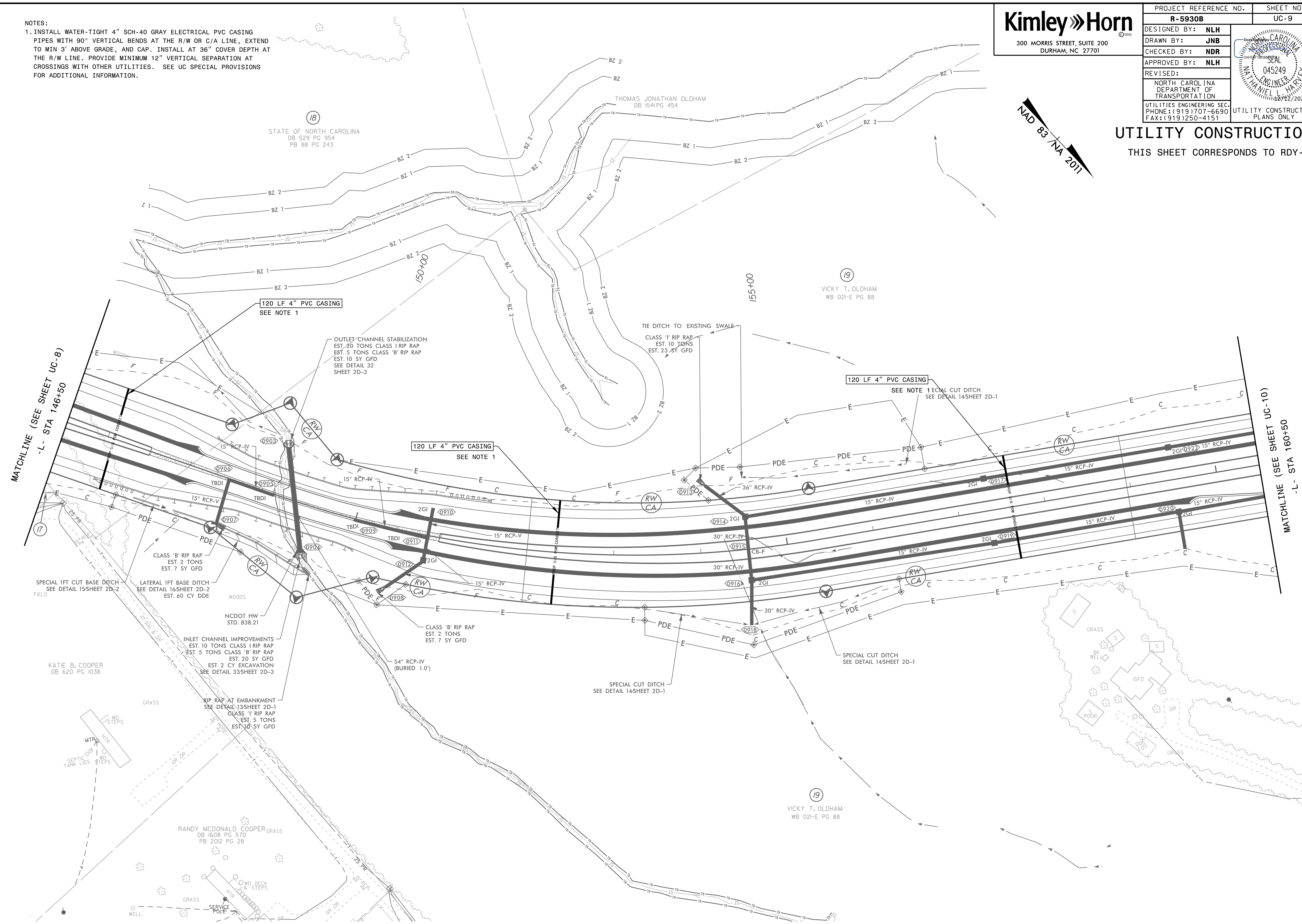
300 MORRIS STREET, SUITE 200  
DURHAM, NC 27701

PROJECT REFERENCE NO.	SHEET NO.
R-5930B	UC-9
DESIGNED BY: NLH	
DRAWN BY: JNB	
CHECKED BY: NDR	
APPROVED BY: NLH	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	



**UTILITY CONSTRUCTION**

THIS SHEET CORRESPONDS TO RDY-9



12/12/2024

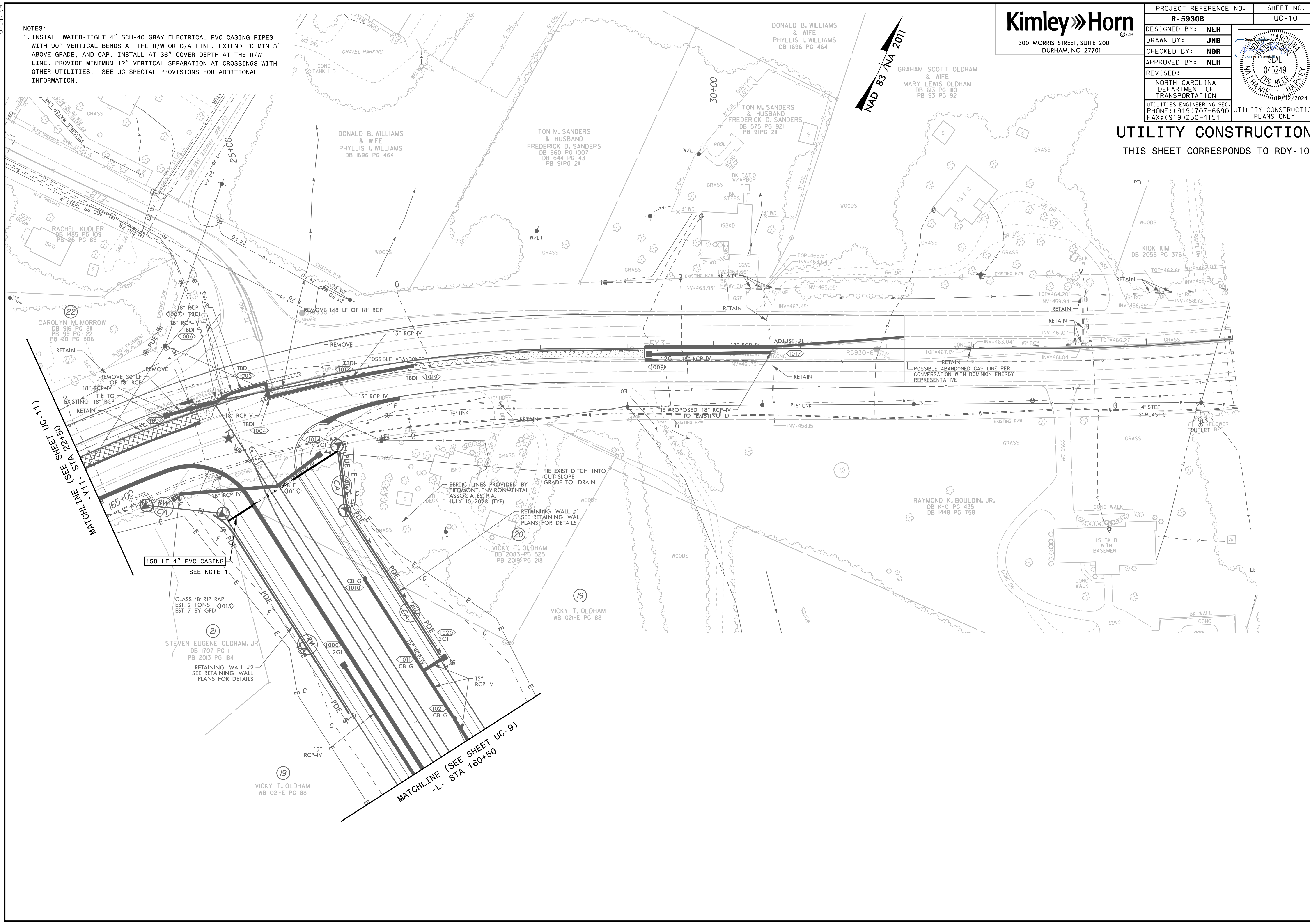


NOTES:  
 1. INSTALL WATER-TIGHT 4" SCH-40 GRAY ELECTRICAL PVC CASING PIPES WITH 90° VERTICAL BENDS AT THE R/W OR C/A LINE, EXTEND TO MIN 3' ABOVE GRADE, AND CAP. INSTALL AT 36" COVER DEPTH AT THE R/W LINE. PROVIDE MINIMUM 12" VERTICAL SEPARATION AT CROSSINGS WITH OTHER UTILITIES. SEE UC SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.

**Kimley»Horn**  
 300 MORRIS STREET, SUITE 200  
 DURHAM, NC 27701

PROJECT REFERENCE NO.	SHEET NO.
R-5930B	UC-10
DESIGNED BY: NLH	
DRAWN BY: JNB	
CHECKED BY: NDR	
APPROVED BY: NLH	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

**UTILITY CONSTRUCTION**  
 THIS SHEET CORRESPONDS TO RDY-10



MATCHLINE (SEE SHEET UC-11)  
 -Y1- STA 230+00

MATCHLINE (SEE SHEET UC-9)  
 -L- STA 160+50

150 LF 4" PVC CASING  
 SEE NOTE 1

CLASS 'B' RIP RAP  
 EST. 2 TONS (1015)  
 EST. 7 SY GFD

STEVEN EUGENE OLDHAM, JR.  
 DB 1707 PG 1  
 PB 2013 PG 184  
 RETAINING WALL #2  
 SEE RETAINING WALL  
 PLANS FOR DETAILS

VICKY T. OLDHAM  
 WB 021-E PG 88

SEPTIC LINES PROVIDED BY  
 PIEDMONT ENVIRONMENTAL  
 ASSOCIATES, P.A.  
 JULY 10, 2023 (TYP)

RETAINING WALL #1  
 SEE RETAINING WALL  
 PLANS FOR DETAILS

VICKY T. OLDHAM  
 DB 2083 PG 525  
 PB 2019 PG 218

VICKY T. OLDHAM  
 WB 021-E PG 88

TIE EXIST DITCH INTO  
 CUT SLOPE  
 GRADE TO DRAIN

RAYMOND K. BOULDIN, JR.  
 DB K-0 PG 435  
 DB 1448 PG 758

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 WITH  
 BASEMENT

CONC WALK

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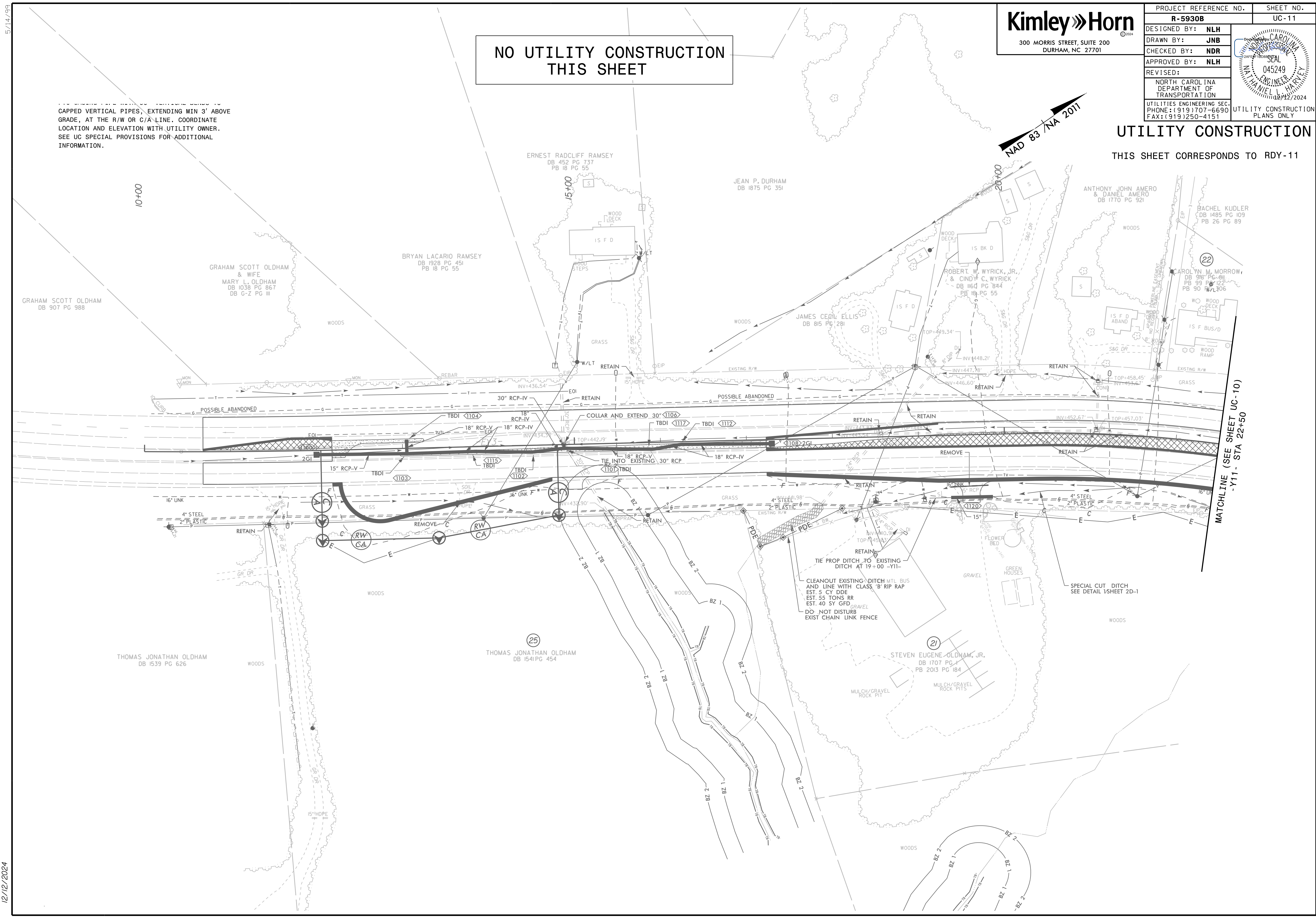


PROJECT REFERENCE NO.	R-5930B	SHEET NO.	UC-11
DESIGNED BY:	NLH		
DRAWN BY:	JNB		
CHECKED BY:	NDR		
APPROVED BY:	NLH		
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		UTILITY CONSTRUCTION PLANS ONLY	
UTILITIES ENGINEERING SEC.		PHONE: (919) 707-6690 FAX: (919) 250-4151	

**NO UTILITY CONSTRUCTION THIS SHEET**


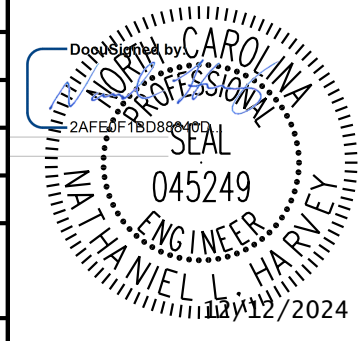
CAPPED VERTICAL PIPES, EXTENDING MIN 3' ABOVE GRADE, AT THE R/W OR C/A LINE. COORDINATE LOCATION AND ELEVATION WITH UTILITY OWNER. SEE UC SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.

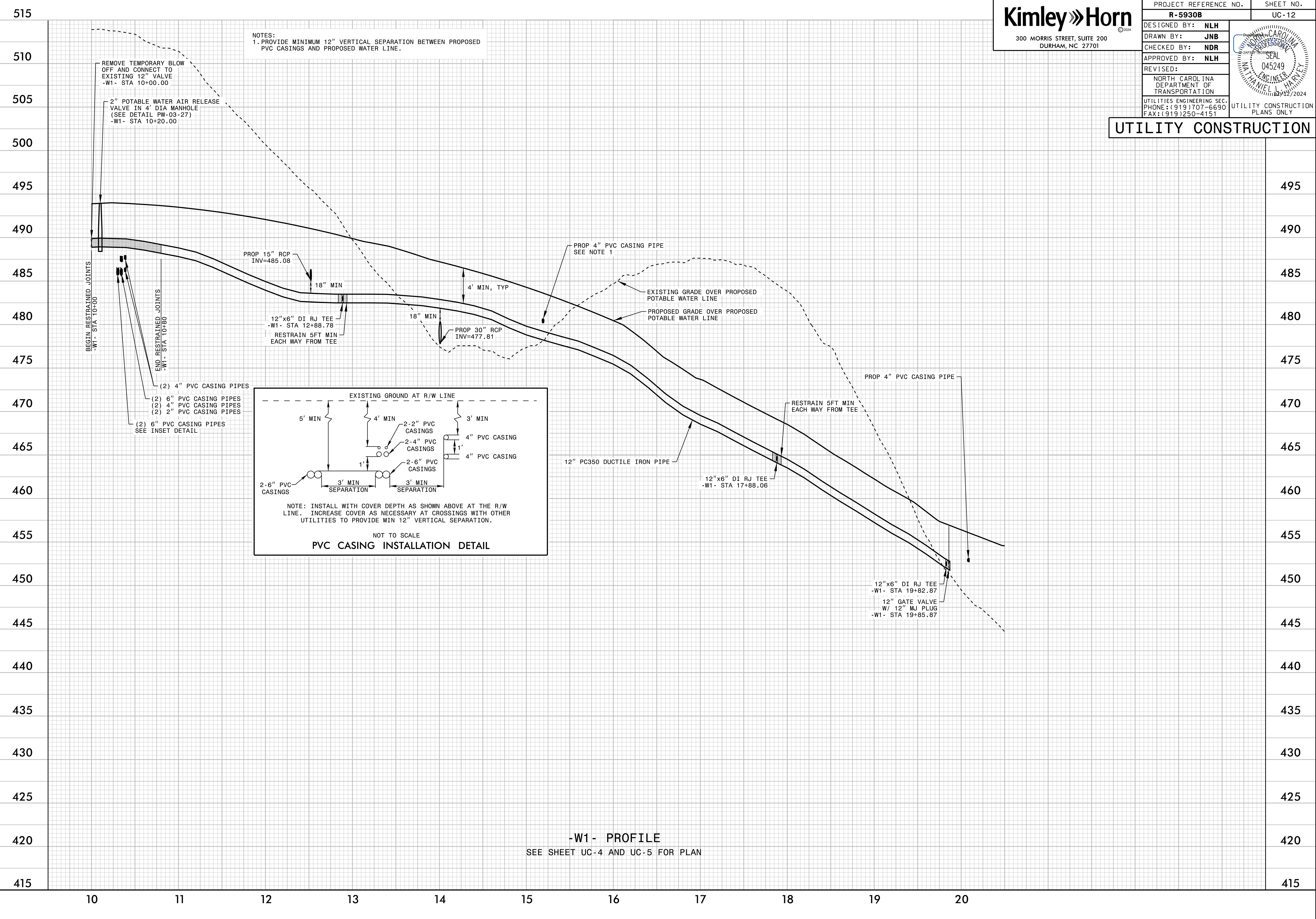
**UTILITY CONSTRUCTION**  
 THIS SHEET CORRESPONDS TO RDY-11





5/14/2024

PROJECT REFERENCE NO. <b>R-5930B</b>		SHEET NO. UC-12
		
300 MORRIS STREET, SUITE 200 DURHAM, NC 27701		
DESIGNED BY: <b>NLH</b>		
DRAWN BY: <b>JNB</b>		
CHECKED BY: <b>NDR</b>		
APPROVED BY: <b>NLH</b>		
REVISED:	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
<b>UTILITY CONSTRUCTION</b>		



**-W1 - PROFILE**  
SEE SHEET UC-4 AND UC-5 FOR PLAN

12/12/2024